

Capital Flows To 24-Hour Real Estate Markets

A research report prepared for the Steven L. Newman Real Estate Institute, Baruch College, CUNY by contributing author Hugh F. Kelly, GRE, Clinical Associate Professor of the Schack Real Estate Institute, New York University.

The discussion in parts 1 and 2 of this series of papers on 24-hour cities and real estate investment performance has thus far demonstrated that the proposed set of 24-hour markets has provided higher levels of rent and lower levels of vacancy since 1987, when compared with a “control” set of 9-to-5 metro areas.^{1,2} Furthermore, the National Council of Real Estate Fiduciaries (NCREIF) returns data indicates a significant premium has been earned since 1987 by the set of 24-hour markets, when compared with the set of 9-to-5 markets. For rents, vacancies, and returns, the Central Business Districts in the 24-hour cities have shown more favorable performance than for their own suburbs, and also have outperformed the downtowns of the 9-to-5 cities.

Economic theory suggests that, if such conditions prevail over time, capital should flow disproportionately to the 24-hour metros, and even more disproportionately to their central business districts. We are now able to test that proposition empirically.

Since 2001, the firm Real Capital Analytics (RCA) has tracked commercial real estate transactions in the United States for sales priced \$5 million and higher. The RCA database is generally recognized as the most comprehensive compendium of commercial real estate sales activity in the nation. Unlike NCREIF, which limits its data to investments owned and reported by its institutional members, RCA captures investment sales activity from a wide variety of real estate market participants: real estate investment



trusts, private equity firms, international investors, owner-users, pension funds and insurance companies, and other such capital sources. If superior returns are being earned by the institutional investors that make up the NCREIF membership, it should be considered likely that this reflects market conditions affecting other investors as well, *ceteris paribus*³, and that such conditions should influence overall capital flows.

Measures of Office Investment Concentration in 24-hour Locations

RCA has generously allowed analysis of its database for the large set of metro markets that match the rental and vacancy data provided by Torto-Wheaton Research (now known as CBRE Econometric Advisors). Hence it is possible to measure investment sales volume and fairly compare it to the relative size of market inventories – an important control for size when evaluating

the dollar volume of transactions. Across the entire set of metropolitan areas, the numbers are impressive. Greater than 11,500 individual office building sales are included in the RCA sales records for 2001 – 2008 in the more than four dozen metro markets. The total sales volume in the metro areas amounts to more than \$657 billion, of which almost \$340 billion represented deals in the CBDs (see Table 1). The eight year period examined includes the aftermath of the “dot-com recession” early in the decade and the beginning of the late-decade contraction, as well as the real estate boom period of 2004 – 2007. Incorporating transaction data across this full economic cycle mitigates any potential bias concerning investor asset selection due to market timing.

¹ 24-hour cities include Boston, Chicago, Las Vegas, Miami, New York, San Francisco and Washington, DC.

² The 9-to-5 cities include Atlanta, Dallas, Los Angeles, Minneapolis, Philadelphia, Phoenix, and Seattle.

³ The translation is “all other things held equal.”

STILL DEBATABLE?**Two Recent Views on Urban Choices
from the Wall Street Journal**

Wall Street Journal readers may have been surprised by the recent account "Downtown Gets a Fresh Lease" (December 13, 2010) which examined the way Central Business Districts have outperformed suburban office markets over the difficult past few years. Downtown office markets have returned to 2005 levels of occupancy, the article notes (drawing on Reis, Inc. market data) while suburban vacancies are about 230 basis points higher than five years ago, and about 500 basis points higher than the downtown level as of 3rd Quarter 2010.

But those who have been following the exposition in this series of research papers are, perhaps, not so taken aback. A number of the points addressed in the WSJ feature echo themes in our discussion of the 24-hour city. The move of UAL, Inc. from suburban Chicago to the Loop's Willis (formerly Sears) Tower illustrates the return of corporate confidence in 24-hour downtowns as viable corporate headquarters locations. Speaking to the outlook of institutional investors, CalSTRS is cited in the article as preferring "well-located sites in traditional urban areas", due in no small measure to the enhanced returns provided by the 24-hour markets. This speaks directly to the capital flow and liquidity themes discussed in this "Part III" paper.

Christopher Leinberger of the Brookings Institution notes the preference for urban living of the young, educated, white-collar worker, the labor force critical to corporate competitiveness. The WSJ piece speaks specifically of downtown condos, retail, and nightlife as the salient attributes

Table 1:

Total Office Investment Volume for Study Cities (2001 – 2008)

Market	Office - CBD	Office - Sub	Metro Total	Share of all CBD Volume	Share of all Suburban Volume	Share of all Metro Volume
Atlanta	\$5,761,169,916	\$14,411,026,944	\$20,172,196,861	1.70%	4.54%	3.07%
Boston	\$25,103,008,272	\$10,589,478,722	\$35,692,486,994	7.39%	3.33%	5.43%
Chicago	\$30,970,538,369	\$13,479,469,831	\$44,450,008,200	9.12%	4.24%	6.76%
Dallas	\$5,530,438,000	\$14,316,700,000	\$19,847,138,000	1.63%	4.51%	3.02%
Las Vegas	\$1,528,039,547	\$1,793,328,516	\$3,321,368,063	0.45%	0.56%	0.51%
Los Angeles	\$12,589,333,403	\$35,227,826,240	\$47,817,159,643	3.71%	11.09%	7.28%
Miami	\$4,949,971,774	\$4,869,919,405	\$9,819,891,178	1.46%	1.53%	1.49%
Minneapolis	\$3,556,972,474	\$2,764,053,944	\$6,321,026,417	1.05%	0.87%	0.96%
New York	\$114,585,387,607	\$25,588,500,000	\$140,173,887,607	33.74%	8.06%	21.33%
Philadelphia	\$5,637,856,098	\$4,597,633,690	\$10,235,489,788	1.66%	1.45%	1.58%
Phoenix	\$3,083,210,280	\$10,113,655,077	\$13,196,865,357	0.91%	3.18%	2.01%
San Francisco	\$23,190,461,513	\$7,774,157,961	\$30,964,619,475	6.83%	2.45%	4.71%
Seattle	\$13,393,643,020	\$7,076,730,414	\$20,470,373,434	3.94%	2.23%	3.12%
Washington	\$30,714,743,920	\$37,039,656,000	\$67,754,399,920	9.04%	11.66%	10.31%
Total of 49 Markets	\$339,578,000,578	\$317,610,176,583	\$657,188,177,161	100.000%	100.000%	100.000%

Source: Real Capital Analytics. Notes: Dallas data does not include Ft. Worth area; Los Angeles reflects L.A. County only; New York's CBD is Midtown and Downtown and suburbs include other NYC boroughs, but not Long Island or NJ markets counted separately by RCA; San Francisco data, similarly, does not reflect East Bay or Silicon Valley; Washington DC suburbs include both Maryland and Northern Virginia submarkets.



How much did the 24-hour cluster capture? The seven markets included in the proposed 24-hour cluster aggregated \$332.2 billion in metro area office investment, or more than half the total investment recorded for all the covered MSAs. This averages \$47.5 billion per metro area, although as Table 2 shows, the range is a very wide one. By contrast, the seven 9-to-5 metro markets realized only 21% of the total office investment sales volume, at \$138 billion, or roughly \$20 billion per metro area. Putting this into perspective, the

attracting this cohort, which is closely aligned with the description of “the Creative Class” developed by Richard Florida.

Interest in the recipe for 24-hour cities is not restricted to the United States. John Montgomery’s exploration of the “evening economy” examines a variety of cities in the United Kingdom, on the European continent, and in Australia. In *The New Wealth of Cities: City Dynamics and the Fifth Wave*, this London-based author comes to much the same conclusion as Florida and Leinberger. A multi-skilled labor force is the driving urban asset separating successful cities from struggling cities, and those skills span technical, creative, and business development/management domains. Montgomery, along with others, maintains that cultural/entertainment activity and economic dynamism are complementary and mutually reinforcing factors.

By now, it is no longer startling to identify the sea change in planning and zoning theory as a critical response to the evident desirability of encouraging those urban attributes enumerated by Leinberger and ratified by Montgomery. Integration of land uses, rather than strict separation of uses, is seen as key. Center city housing for white collar workers – mostly for middle management and for professional/technical workers in industries ranging from media to design, from law to accounting, from software to the arts – is viewed as fully compatible with dense office clusters. At scale, this supports downtown retailing in a way that is unimaginable to those accustomed to finding CBD shopping streets dying as malls and power centers in the suburbs crush the traditional high street. New York’s Fifth and Madison Avenues command the nation’s highest retail rents, but most 24-hour cities have similarly strong retail corridors:

Table 2:

Descriptive Statistics of RCA Office Sales Sample

	Mean	Median	Min.	Max.	Std. Dev
Market Inventory (Millions of SF)					
24-Hour MSAs	181,407	157,633	33,331	463,409	152,997
9-to-5 MSAs	108,522	103,300	63,894	175,326	41,790
24-Hour CBDs					
24-Hour CBDs	105,359	79,555	5,435	362,037	120,910
9-to-5 CBDs	29,616	29,265	14,178	39,872	8,300
Sales 2001 – 2008 (Millions of \$)					
24-Hour MSAs	\$47,454	\$35,692	\$3,321	\$140,174	\$46,174
9-to-5 MSAs	\$19,723	\$19,487	\$6,321	\$47,817	\$13,554
24-Hour CBDs					
24-Hour CBDs	\$33,006	\$25,103	\$1,528	\$114,585	\$37,862
9-to-5 CBDs	\$7,079	\$5,638	\$3,083	\$13,394	\$4,180
Sales Prices per SF (2001 – 2008)					
24-Hour CBDs	\$339	\$390	\$164	\$560	\$135
9-to-5 CBDs	\$193	\$176	\$128	\$331	\$74
Relative Concentration of Office Investment					
24-hour CBD Inventories	8.13%	7.51%	0.41%	27.44%	9.16%
9-to-5 CBD Inventories	2.29%	2.26%	1.07%	3.02%	0.63%
24-Hour CBD Sales Total					
24-Hour CBD Sales Total	9.72%	7.39%	0.45%	33.74%	11.15%
9-to-5 CBD Sales Total					
9-to-5 CBD Sales Total	2.09%	1.67%	0.91%	3.96%	1.24%
24-Hour CBD Sales/Inventory Ratio					
24-Hour CBD Sales/Inventory Ratio	1.20	1.24	0.98	1.54	0.21
9-to-5 CBD Sales/Inventory Ratio					
9-to-5 CBD Sales/Inventory Ratio	0.91	0.85	0.48	1.46	0.35

additional 35 markets represented in the RCA listing shared only 28.4% of the sales, or \$186 billion (about \$5.3 billion per metro).

The asymmetry is even more striking for downtown office investment. Aggregate investment in the 24-hour CBDs was slightly more than \$231 billion, or 68.0% of all CBD sales volume - \$33.0 billion per CBD on average. For the seven 9-to-5 downtowns, however, the total sales volume was less than \$50 billion, or about \$7.1 billion per city on average, representing 14.6% of all downtown sales in the RCA sample reviewed. The

Chicago’s North Michigan Avenue, San Francisco’s Union Square, and Boston’s Boylston and Newberry Streets come to mind readily.

Restaurants, performing arts venues, and urban parks help round out a picture of a place with “good density” – where the mix enhances the value of each land use – rather than “bad density” that simply means congestion. The mix helps extend the hours of activity far beyond the 9-to-5 norm, and makes superior use of the urban infrastructure. In fact, it can be credibly argued that great homogeneity of use exacerbates congestion by triggering massive intraday moves from work to recreation/entertainment to home locations, each requiring automobile trips to the same places at the same time. With each use only in productive activity for a limited time each day, property values are attenuated as the physical capital is only economically deployed for ten or fewer hours.

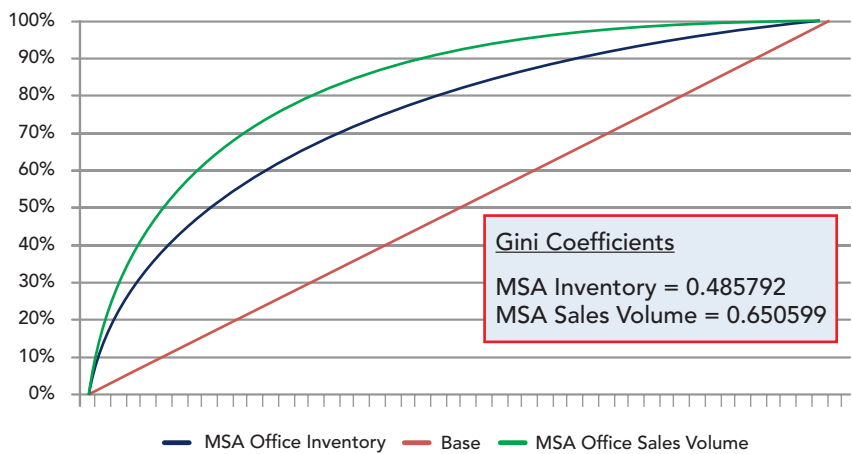
A telling contrast can be drawn between Dallas’ skyscrapers, which feature neon highlighting in the evening, to New York’s skyline, which is lit from within because Manhattan’s lawyers, consultants, bankers and brokers are working deep into the night. New York can command higher rents because its office workers are producing revenue for more hours per day. Its mixed-use core facilitates this higher productivity and profitability.

One might wonder what to make of another *Wall Street Journal* feature published in late 2010. That piece, an Op-Ed essay by pop urbanist Joel Kotkin, was entitled “The Rise of the Efficient City” (November 25, 2010). In this commentary, Kotkin rehearses his familiar theme that the large cities such as New York, Chicago, and Los Angeles are outstripped by “the more nimble” Dallas, Houston, and Charlotte areas, not to mention such

Figure 1:

At MSA Level, Office Investment Activity is Highly Concentrated

Five Metros Account for 51% of All Sales Volume (2001 - 2008)

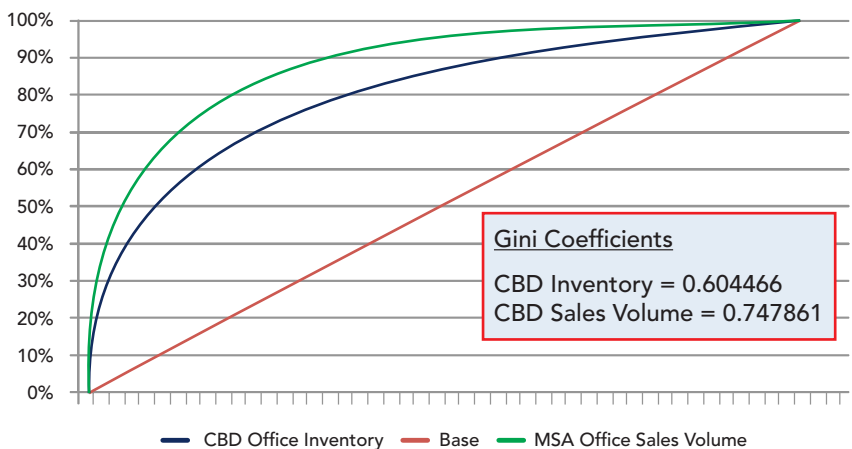


Source: Inventory from CBRE Econometrics; Sales from Real Capital Analytics; calculation of Gini Coefficients using P.Wessa statistical software, version 1.123-r5, URL <http://www.wessa.net/>

Figure 2:

At CBD Level, Office Investment Activity is Even More Highly Concentrated

Five Metros Account for 66% of All Sales Volume (2001 - 2008)



Source: Inventory from CBRE Econometrics; Sales from Real Capital Analytics; calculation of Gini Coefficients using P.Wessa statistical software, version 1.123-r5, URL <http://www.wessa.net/>

remaining CBDs shared just under \$59 billion in office building sales, or 17.4% of the total, less than \$2 billion per downtown.

Graphically, the unusually high concentration of investment activity in the 24-hour metro, especially in their CBDs, can be well illustrated through the use of Lorenz Curves. The Lorenz Curve plots the cumulative percentage of total of any variable when ordered by size, versus the standard of a theoretically equal distribution of those values. The orthogonal line, a 45 degree angle, represents that theoretically equal distribution. The curved lines in the accompanying graphs represent the measured values of the variables. The more convex the curve, the greater the inequality of distribution. The area under

places as Raleigh, Austin, Indianapolis, Columbus, Oklahoma City, and Kansas City. By “efficient”, he means lower-cost, faster journey-to-work, more business-friendly municipalities. Kotkin argues that such places have quality of life advantages that erode the status of the nation’s top office markets.

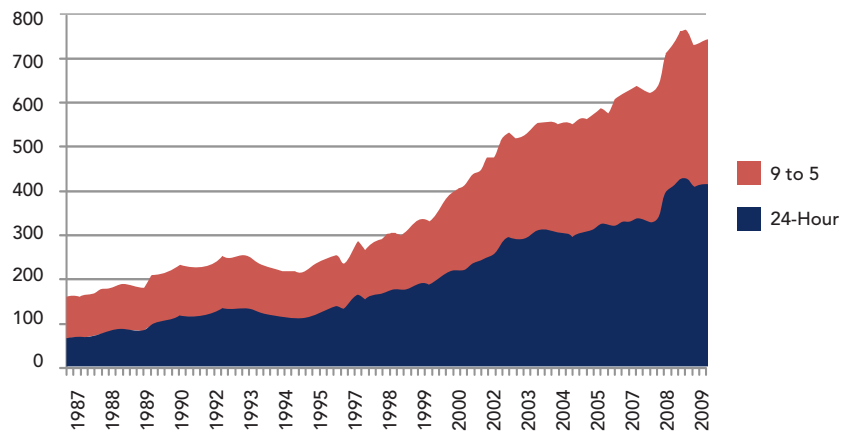
Of course, the phrase “quality of life” is very much a term of art. What Kotkin lauds is a set of values identified by *New York Times*’ columnist David Brooks as belonging to a cultural cohort known as the “bohemian bourgeoisie” in his 2000 book *Bobos in Paradise: The New Upper Class and How They Got There.* But where Brooks acknowledges the affinity of the “bobo” for the gritty downtowns as much as for “new urbanism” small city or the suburban dominated small metro (say, Raleigh or Austin), Kotkin turns a blind eye – one must say wilfully – to any desirable features of America’s large cities, preferring to compare them to Mumbai, Mexico City, or Sao Paolo.

Interestingly, the 24-hour city research can be legitimately read to indicate that Kotkin is correct in terms of mass preferences favoring suburbs and small cities across the breadth of the United States. All indications are that 24-hour cities are indeed different, exceptional, and that all but a few cities will be swimming against the tide in efforts to “become 24-hour urban centers.” But the data on “efficiency,” honestly and completely considered, certainly do not support Kotkin’s case. The 24-hour centers’ efficiency, featuring mass transit, high-rise walk-to-work residential buildings, lower crime and higher worker productivity, are what make them exceptional. New York is not New Delhi, even if it is also not Palo Alto.

That exceptionalism - a taxonomic

Figure 3:

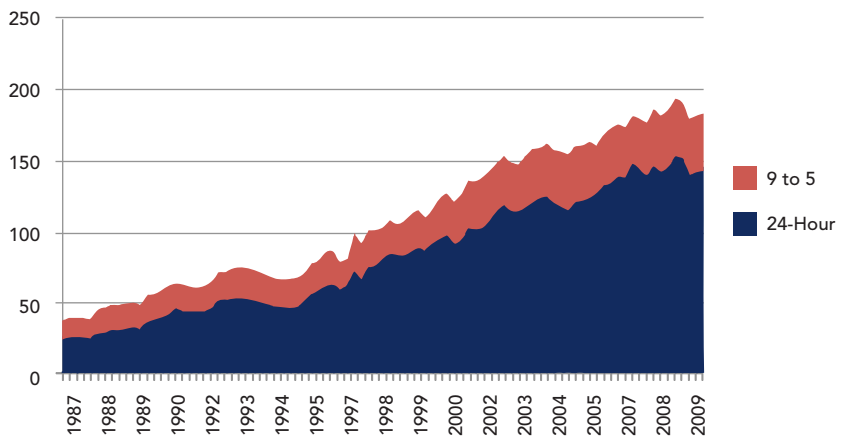
The Number of Office Assets Held By NCREIF Has Grown Over Time – with a modest shift toward 24-hour Metros



Source: National Council of Real Estate Investment Fiduciaries; data generated from Custom Query facility in NCREIF database

Figure 4:

The Number of CBD Office Assets Held By NCREIF Has Grown Significantly Over Time – due mostly to 24-hour Metros



Source: National Council of Real Estate Investment Fiduciaries; data generated from Custom Query facility in NCREIF database

the curves is measured by a function known as the Gini Coefficient. The higher the Gini Coefficient, the greater the measure of inequality.

At the MSA level, there is significantly greater convexity in the Lorenz Curve for office investment sales volume than in the curve that represents the amount of office inventory represented by the same metro areas. Figure 1 illustrates this. The top five metropolitan areas in office sales volume for the period 2001 to 2008 had 51.1% of the dollar volume of investment, substantially higher than the 38.3% share of inventory held by those MSAs. Four of the five MSAs which account for so much of the convexity in the MSA Lorenz Curves are in the 24-hour city cluster: Boston, Chicago, New York, and Washington, DC. (Los Angeles is the fifth MSA.)

The Lorenz Curves for the downtown markets are even more convex, as Figure 2 shows. The top five markets by inventory represent 54.5% of the total CBD inventory in the CBRE Econometric Advisors data, but a striking 66.4% of total downtown office building

distinction between the handful of 24-hour markets and the balance of other large U.S. metros – is at the heart of the hypothesis, now validated by the data and analysis in this three-part series of research papers, that so-called 24-hour locations provide commercial real estate investors with superior risk-adjusted returns. Investors who have acted on such a premise over the past two decades have earned rich rewards. Those betting on the mass preferences for smaller, high-growth but high-volatility cities and suburbs have not done nearly as well.

The remarkable prospect is that the 24-hour cities will prove sustainable not only in an environmental sense, but in their economic competitiveness. If that's the case, we may indeed be in the midst of an urban revolution, albeit a revolution that does not require the destruction of the physical fabric of the urban core but its adaptation to the very human propensities to bring together the variety of work-live-play activities into a cohesive and urbane setting. That's a quality of life that you do not need to be a "bobo" to enjoy.



Table 3:

Measures of Distribution Inequality in RCA Office Sales Data

	Obs	Mean	Max	Min	Gini Coefficient	Entropy	Concentration Coefficient
MSA Inventory	49	68.3	463.4	8.0	0.485792	3.456098	0.495912
MSA Sales Volume	\$49	\$13,412	\$140,173	\$48	\$0.650599	\$3.074168	\$0.664153
CBD Inventory	47	28.1	362.0	1.2	0.617607	3.038416	0.617607
CBD Sales Volume	\$47	\$7,225	\$114,585	\$0	\$0.742028	\$2.636773	\$0.758159

Notes: Data values for inventory are in millions of square feet; data values for sales volume are in millions of U.S. dollars. For inequality statistics in CBD sales volume, the presence of a zero value (Palm Beach and Trenton) necessitated the addition of a constant term of 1.0E-6 to each observation.

purchase prices in the Real Capital Analytics data for 2001 – 2008. The top five downtown markets, both for inventory and for sales volume, are the five locations most frequently identified as “24-hour markets” by *Emerging Trends in Real Estate*, namely: Boston, Chicago, New York, San Francisco, and Washington, D.C.

There is a very strong correlation (0.801, with an r^2 of .648) between investment volumes over the 2001 – 2008 period and prices per square foot for the fourteen downtown markets. This is to be expected, as the capital demand for CBD assets should influence equilibrium pricing across locations.

The higher level of pricing, however, has apparently not prevented the 24-hour CBDs from sustaining strong total returns, as we found in the second paper in this series. Conventional economic theory suggests that excess returns should be competed away over time, but this does not appear to be the case for 24-hour office markets. A longer look at investment activity can be made by tracking the number of NCREIF assets held in the 24-hour and 9-to-5 metros and downtowns.

Figure 3 shows the growth in the number of office assets held by NCREIF at quarterly intervals, from the start of 1987 to the third quarter of 2009 (consistent with the returns indexes calculated in the Part 2 paper of this series). The number of office assets held by NCREIF members increased 289% over that period, from 385 to 1,499. Both the 24-metros and the 9-to-5 metros have increased substantially as well. The 9-to-5 metros saw a 260% expansion in the number of NCREIF office assets, from 96 to 346. The 24-hour metros experienced a 454% rise, from just 62 assets in 1987 to 394 assets in late 2009. Both saw a higher rate of increase than “all other” metro areas, which had 227 office assets in 1987 and 759 assets in 2009, a differential of 234%. Looked at as a percentage of total office assets, the 24-hour metros

had a 16.1% share in 1987, which expanded to a 26.3% share in 2009. The comparable shares for the 9-to-5 metros were 24.9% in 1987, falling to 23.1% in 2009.

However, Figure 4 which shows the chart tracking the NCREIF office assets in the CBDs illustrates dramatic differences. The 24-hour downtowns account for 77% of the increase in the number of NCREIF portfolio CBD office assets over the roughly 22 years shown on the chart. In the 24-hour downtowns, NCREIF members have pushed their holdings from 26 assets in 1987 to 144 in 2009, a gain of 454%. Meanwhile, the 9-to-5 downtowns have moved upward much more moderately, from 14 assets in 1987 to just 41 in 2009, an increase of 193%. NCREIF members have consistently favored the relatively large markets included in our two study clusters for downtown office acquisitions. Since 1987, NCREIF office holdings in all other downtowns have increased from 22 to 30 properties, or only 36%. The 24-hour downtowns had a 32% share of all NCREIF downtown office holdings in 1987, and a 67% share in 2009. The 9-to-5 downtowns claimed a 22.6% share in 1987, falling to a 19.1% share of all NCREIF CBD office assets in 2009.

The pattern of NCREIF investment, then, tells a similar story to the RCA data. RCA has the benefit of incorporating a wider set of market participants, but the disadvantage of less historical sweep than NCREIF. That pattern is one of disproportionately high capital inflow into the 24-hour markets, especially the downtowns, despite the relatively high prices for such assets. The advantages of 24-hour CBDs are not dissipating; instead, the strength of these CBDs is both concentrated and sustained over time.

This is an unexpected outcome for many urban and financial models, which are implicitly governed by the law of entropy –

the presumed tendency toward greater homogeneity in the marketplace. Interestingly, it specifically challenges the prevailing ideas about real estate portfolio construction that were current in the era when *Emerging Trends* first proposed the “24-hour city hypothesis.” Those older portfolio construction theories stressed geographic diversification as an important desideratum, seeking to spread the risk of asset concentration according to several formulaic structures.

The 24-hour markets appear to be aentropic, a phenomenon discussed in complexity theory as “emergent self-organization.” Indeed, the entropy measures for CBD inventory and investment are substantially lower than the measures at the MSA level, and that this is due to the influence of the 24-hour city markets is indicated in the Lorenz Curves and in Table 3. At one level, it might be inferred that this is an instance of the market “learning from itself.” As the observed returns for 24-hour markets began to indicate better performance in the 1990s, investors migrated toward the places providing better yields. But this begs the question of how such superior returns can be sustained. Is this really a question of “driving by means of the rear-view mirror”?

This need not be the case if the market behaviors are pricing future economic performance that continues and perhaps intensifies the advantage of 24-hour locations. Looking at the issue from a purely “finance-model” perspective, where excess returns should be competed away, may prove short-sighted if the drivers of returns are powerful and dynamic features of the urban locations themselves. Part One of this series suggested that such may be the case, as agglomeration economies

on the user-demand side and barriers to entry on the supply side may point to persistent advantages for 24-hour markets, advantages have been priced into rent and occupancy levels at least over the past two decades. The expectation of a sustained advantage should be discernable in lower capitalization rates for 24-hour markets – which we do indeed see generally in the RCA data. The reason that lower cap rates indicate greater future expectations is that they, in effect, show a willingness to take a lower “going-in” return for an asset because of the anticipation of higher growth in income and in capital value over time.

One way of understanding this is to connect the property evidence to its economic and public policy context. If 24-hour downtowns, for instance, act as capital magnets (as this paper argues) and this influx of capital supports high levels of commercial property value, then the municipal tax base benefits accordingly. That implies the greater ability of those

This research report is published by the Steven L. Newman Real Estate Institute, Baruch College, CUNY.

The Newman Real Estate Institute gratefully acknowledges the support of the sponsors who make possible our efforts to promote critical thinking on topical issues for the real estate industry.

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cities to provide key services to businesses and residents, attracting employers and employees seeking such services. This feeds back into occupancy and rent levels, and sustains a virtuous circle, subject to the supply/demand fluctuations of market cycles, of course.

Thus, we return to the basic argument of *Emerging Trends in Real Estate*. The claim of that publication has been that 24-hour cities provide superior investment performance because of a set of urban attributes: close-in residential neighborhoods of good quality; efficient transportation access; convenient retailing; low crime; attractive amenities in or near the CBD. Such attributes are not evenly distributed among cities, and changing the urban profile for such attributes is a slow and expensive process. It appears that 24-hour cities have in fact been recognized by investors as having investment advantages, and the "virtuous circle" described above suggests that those advantages may be difficult to displace and may even be enhanced by the inflow of capital that has been already occurring.

There is ample reason, in sum, to applaud *Emerging Trend's* foresight in identifying the "24-hour city hypothesis," and to consider that further formal research will sustain that hypothesis in a statistically rigorous way. ■

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