Economic and Demographic Characteristics of the ODCE Index

Benchmark has Elevated Exposure to Educated Markets, Finance and Tech Sectors

- This paper examines the NCREIF-Open End Diversified Core Equity Index's (ODCE) exposure to different employment sectors through its geographic allocation.
- The ODCE index property investments are concentrated in large, coastal markets, skewing the exposure to industries relative to the US overall.
- The ODCE has high exposure to growth industries such as high tech and business and professional services, but also significant exposure to sectors with more near-term risk, including financial services and federal government.
- ODCE investment is concentrated in metro areas that have high levels of education, high income, and are younger than the national average.

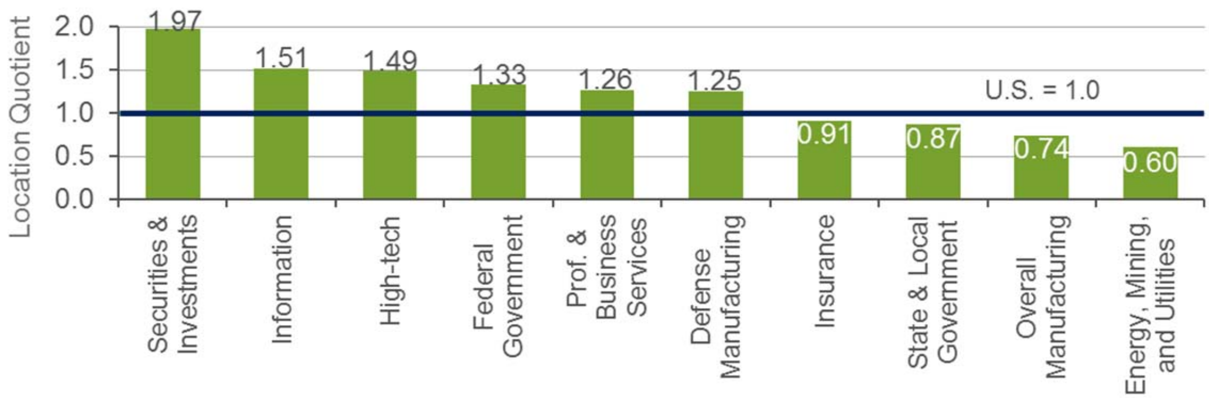
Economic Diversification Analysis Using Location Quotients

Understanding diversification is an important piece of assessing the risk profile of commercial real estate (CRE) portfolios. To evaluate the exposure of private institutional CRE to different economic drivers, this paper analyses the exposure to industry groups for the Open End Diversified Core Equity Index (ODCE) based on the distribution of property value by metropolitan area. Because ODCE assets are disproportionately located in large, coastal metropolitan areas, the index has greater exposure to the economic sectors concentrated in those markets. Some sectors, such as construction and retail trade, are relatively evenly distributed nationally, while others, such as financial services and high tech, tend to cluster in select metropolitan areas. This paper also examines demographic variables, and finds that ODCE investment is oriented towards markets with above average educational attainment and high household incomes.

The analysis detailed in this paper applies a location quotient methodology to the overall ODCE index. Location quotient (LQ) takes the ratio of a metropolitan area's (CBSA or Division) employment in each sector to overall employment in the metro, divided by the comparable ratio for the US. LQs higher than one indicate a sector is more concentrated in a metro relative to the US overall, while an LQ lower than one indicates an industry is less concentrated in a metro. For example, the technology sector in San Jose, CA metro area is 26.3% of metro employment compared to 4.7% of national employment, meaning San Jose has a very high LQ of 5.6 (26.3%/4.7%) for this sector. To get the combined LQ for each industry in the ODCE index, the location quotients for each industry in each metro are weighted according to the share of the ODCE invested in each metro.

Using this approach, the ODCE index has above average exposure to financial services, information, high tech, the federal government, defense manufacturing, and business and professional services. Consequently, when viewed in aggregate, core institutional real estate assets have an economic risk profile that differs from the overall U.S. economy. High location quotients for federal government and defense manufacturing imply the ODCE index could be disproportionately impacted by spending cuts that are being considered due to the budget deficit and the wind down of the war in Afghanistan. A high employment concentration in the financial services industry also represents some downside risk due to the structural changes in that industry. The high LQs for the high-skilled, fast growing sectors of high tech and business and professional services provide some upside based on current trends. Other sectors, such as manufacturing, insurance, and state and local government are less concentrated in ODCE markets. Energy, Mining, and Utilities is the sector with the lowest ODCE exposure relative to the U.S., largely due to the fact that employment is disproportionately located, with a few exceptions like Houston and Tulsa, outside metropolitan areas.[1] Sectors such as construction, hospitality, and transportation are generally evenly distributed geographically and the ODCE exposure to these industries is in line with the national average.

Figure 1. Industry Location Quotients for ODCE

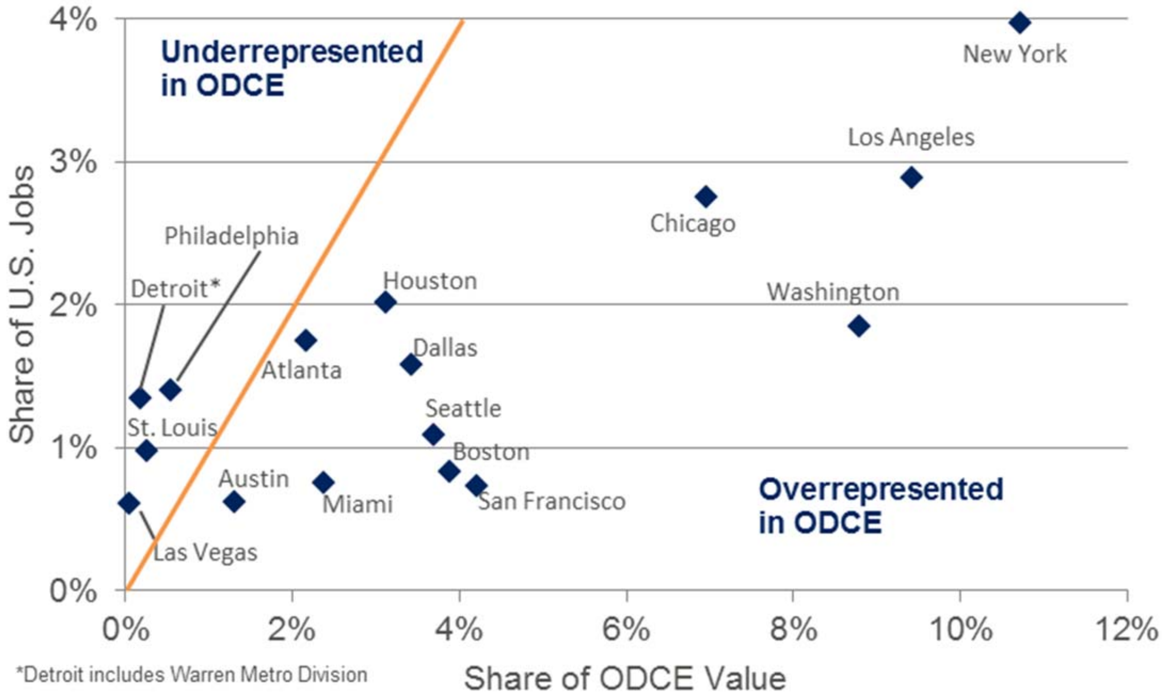


Source: NCREIF, Economy.com

Nearly 60% of the ODCE's assets are located in 10 major markets that together account for less than 20% of U.S. jobs, as shown in the chart below. Consequently, the index has higher than average LQs in sectors that are heavily concentrated in these major U.S. cities, such as information, professional and business services, and securities and investments. In some cases, a high industry LQ in one or two large markets can result in a high LQ for the overall index. Seattle and Los Angeles boost the LQ for Defense Manufacturing and Washington D.C. drives the high score for Federal Government. High tech is spread across more markets, but removing San Francisco, San Jose, Seattle, and Washington D.C., would lower high-tech's LQ from 1.49 to 0.98.

[1] Just 40.7% of employment in "Energy, Mining, and Utilities," as defined by Economy.com, is located within the 107 metro areas examined in this analysis, versus 63.1% for overall nonfarm employment.

Figure 2. Share of ODCE Value vs. Share of Employment by Metro



Source: NCREIF, Economy.com

Figure 3. ODCE Concentration by Economic Metro Area

Top 10 Metros by Market Value	Share of Total Value	Most Concentrated Industry (>30,000 Employees)	Location Quotient	Size of Industry
New York	10.7%	Securities, Commodities and Investments	6.49	207,000
Los Angeles	9.4%	Information	2.60	201,000
Washington	8.8%	Federal Government	6.41	328,000
Chicago	7.0%	Securities, Commodities and Investments	1.93	43,000
San Francisco	4.2%	High-tech	2.60	121,000
Boston	3.9%	Securities, Commodities and Investments	5.36	36,000
Seattle	3.7%	Defense Manufacturing	13.83	94,000
Dallas	3.4%	Credit Intermediation	1.76	72,000
San Diego	3.3%	High-tech	1.84	109,000
Houston	3.1%	Energy, Mining, and Utilities	4.52	137,000
Combined Share	**57.5%**			

Source: NCREIF, Economy.com

There are a few things to keep in mind when considering these results. First, the analysis is at a metro level and does not capture the nuances of specific locations. Tenant demand in a medical office building next to a hospital in San Jose, for example, may have little to do with the tech sector. Unfortunately there is no data available on the industry mix of tenancy for ODCE properties. Second, market fundamentals like vacancy have a large influence on real estate income growth, independent of a market's economic base. Cities with structural factors like high supply constraints tend to have lower vacancy rates across property types, often regardless of a city's economic base. We view the location quotient analysis as a helpful guide to assessing concentration risk, but individual investment decisions are based on economic conditions, property market fundamentals, capital market drivers in each specific location, and asset-specific factors.

Demographic Exposure

Extending the location quotient methodology to demographic characteristics reveals that the ODCE is oriented towards more educated, higher income, and younger markets. These are positive signs for economic growth and tenant demand. The percentage of the population aged 25 years and older with a bachelor's degree or higher is about 1.3 times the national average, and median household incomes are 24% higher than the national average. The 25-44 year-old working age cohort is overrepresented in these markets, and a smaller percentage of the population is over the age of 65 than the U.S. overall. The median age for ODCE markets is 36.1 years, versus a median of 37.2 years for the U.S.

As the table below shows, ODCE investment tends to concentrate in markets with high levels of education. Conversely, the ODCE is underrepresented in the metros with less vibrant economies. The San Francisco metro division, for example, accounts for only 0.7% of the U.S. workforce but 4.4% of ODCE market value – over 6 times as much. Las Vegas, on the other hand, possesses less than 1/10th the asset value that would be expected if ODCE investment was directly proportional to the size of that city's job market.

Figure 4. ODCE Concentration by Level of Education

Most Overrepresented Metro Areas	Share of ODCE Value / Share of U.S. Employment	Share of Population 25+ with a Bachelor's or Greater	Median Household Income	Percentage of Population Age 25-44
San Francisco	6.05	49%	$77,241	32%
Washington	5.05	43%	$89,114	31%
Boston	4.96	41%	$64,623	28%
San Diego	3.74	33%	$59,918	29%
Seattle	3.60	40%	$65,698	31%
Cambridge	3.58	52%	$74,804	29%
Las Vegas *(Underrepresented)*	0.09	22%	$50,960	29%
ODCE Value-Weighted Average	**N/A**	**35%**	**$62,755**	**29%**
U.S. Average	**N/A**	**27%**	**$50,633**	**26%**

Source: NCREIF, Economy.com

Conclusion

This paper offers a high-level view of the Open-End Core Fund benchmark's exposure to various industry sectors and demographic profiles. It suggests U.S. core real estate investors have significant exposure to some of the U.S. economy's most dynamic industries, including high tech and business and professional services, as well as to downside risk in the form of federal budget cuts and a financial services industry that is facing structural challenges. ODCE properties also appear well positioned to capture demand from some of the most educated and productive members of the population. Going forward, LaSalle will be using this framework to assess the economic and demographic orientation of the portfolios we manage against both the ODCE and NPI indices.

Appendix

Figure 1. NCREIF-ODCE Location Quotient Analysis as of 12/31/2012[2]

Industry Sector or Subsector	ODCE Location Quotient
Overall Manufacturing	0.74
Defense Manufacturing	1.25
Construction	0.96
Transportation and Distribution	0.98
Retail Trade	0.91
Information	1.51
Financial Services	1.15
Insurance	0.91
Banking and Credit Intermediation	1.02
Securities and Investments	1.97
Professional and Business Services Overall	1.26
High-tech Employment	1.49
Government	0.93
Federal Government	1.33
State and Local Government	0.87
Leisure and Hospitality	0.99
Healthcare and Education	0.98
Hospitals and Medical Labs	0.93
Universities and Higher Education	1.18
Energy, Mining, and Utilities	0.60
Demographic and Economic Variables	**ODCE Location Quotient**
Median Household Income	1.24
% Pop. 25+ with Bachelor's Degree or Higher	1.29
% of Population Aged 5-19	0.98
% Aged 25-44	1.10
% Aged 45-64	0.97
% Aged 65+	0.88

Source: Bureau of Labor Statistics, Economy.com, LaSalle Investment Management

[2] Note: Green shaded industry exposure is overweighted by ≥10% in the index. Red shaded industry exposure is underweighted by ≤ -10%.

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