

MICRO CAP ASSETS VS. MACRO CAP ASSETS

The Effect of Asset Size on Financial Performance in Real Estate

An independent study performed by
graduate students at the Olin Business School
at Washington University in St. Louis.

May 2018

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The content enclosed represents the work of Washington University in St. Louis graduate students as part of an academic exercise.

Executive Summary

This study explored the investment thesis that micro assets outperform macro assets. Micro assets are defined as office and industrial real estate assets acquired at a price between \$1 – \$10 million. Assets acquired at a price greater than \$10 million are defined as macro assets. The study used a data sample of 1,025 office and industrial real estate asset transactions collected from the databases CompStak and Co-Star. Data was collected from 1993 to 2016, representing approximately 38 cities across different market tiers.

The results obtained from the analysis, with a 90% confidence level, showed that micro assets yielded an 8.76% higher IRR than macro assets. Similarly, the analysis found, with a 99% confidence level, that the change in value of micro assets is 15.97% higher than macro assets.

When validating the study, three theories emerged as fundamental drivers that support the micro asset investment thesis. First, the small firm effect helps explain why micro assets may outperform macro assets. The thesis asserts that small cap firms outperform large cap firms. A second explanation for the results of the study is that buyers in the micro market are less pressured to buy and sell assets than macro buyers. Macro assets are predominately purchased by large private equity funds with a long operating history. As a result, these large funds have an oversupply of capital. The large funds have more capital to allocate, and therefore may not be as disciplined at deploying their capital vs. their micro asset investor counterparts. Finally, the micro asset market is more inefficient than the macro asset market. Macro investors may receive relevant pricing information sooner, meaning that arbitrage opportunities could exist in the micro asset market. Additionally, assets can be acquired in the micro market and sold in the macro market. Since the macro market is more efficient than the micro market, micro assets that are sold in the macro market benefit from market correction, meaning they are disposed at efficient market value.

This study ends with a commonly asked question section. This section is meant to answer common concerns and misconceptions regarding micro asset investment. Questions answered include the cyclicity of returns in the study, why the micro asset market is not over crowded, the sustainability of the micro asset investment thesis, and why institutional investors should take notice of the thesis.

Objective

This study explored the investment thesis that micro assets outperform macro assets. Micro assets are defined as office and industrial real estate assets acquired at a price between \$1 – \$10 million. Assets acquired at a price greater than \$10 million are defined as macro assets. The study used a data sample of 1,025 office and industrial real estate asset transactions collected from the databases CompStak and Co-Star. Data was collected from 1993 to 2016, representing approximately 38 cities across different market tiers.

This document seeks to understand the relationship between sizes of assets and financial outcomes in the commercial real estate market. That mission is supported by academic research, financial theory, and a study designed and executed to test the following investment thesis:

small capitalization real estate assets, defined as “micro” assets, yield greater returns than large capitalization real estate assets, defined as “macro” assets.

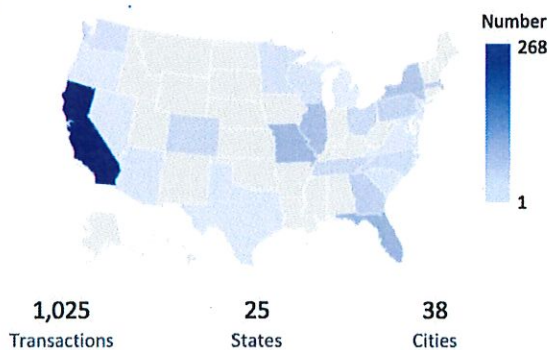
For the purpose of this study, micro assets are defined as office and industrial real estate assets acquired at a price between \$1 – \$10 million. Assets acquired at a price greater than \$10 million are defined as macro assets. The document will be structured in the following order:

1. Methodology and data results
2. Underlying theories
3. Commonly asked questions

Methodology and Data Results

Data Collection

Individual data on office and industrial real estate transactions in more than 30 cities across the continental United States was collected from two real estate databases, CompStak and Co-Star. Figure 1 displays the geographic dispersion of the sample:



From these databases, the team collected information including the dates assets were purchased and sold, the acquisition and disposition prices, and the square footage of the assets. Transactions were sorted by size, city, and their respective market tier.¹ Through this process, the sample included more than one thousand observations of comparable sales over a period ranging from 1993 to 2016.

¹Tier I markets include Boston, Chicago, Dallas, Houston, Los Angeles, New York City, Washington DC. Tier II markets include Atlanta, Denver, Miami, Minneapolis, Philadelphia, San Diego, Seattle. All other cities in the sample are categorized as Tier III markets. Market definitions as per CBRE.

To avoid selection bias, the sample was created using an even distribution of transactions that accurately represented the number of office and industrial real estate transactions across the U.S. 50% of the sample was composed of tier I transactions and the remaining 50% was made up of tier II and III transactions. Similarly, 70% of the sample consisted of micro transactions and the remaining 30% were macro transactions. All selected transactions had a minimum holding period of 18 months in an effort to emulate private equity real estate investments.

Methodology

Utilizing the information retrieved, a financial model was created to calculate the IRR of the investments by applying industry standard assumptions for leverage, interest expense, leasing revenue, and transaction costs for each real estate transaction.

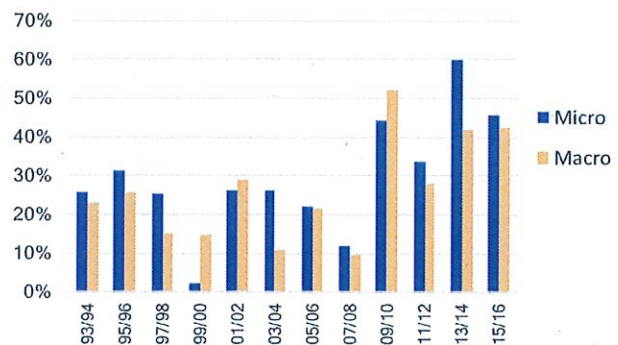
To calculate the effect of investment size on returns, the team ran two linear regressions using two return metrics to measure performance: IRR and the percentage change in value of the properties.² In each model, the study controlled for variables that could externally misrepresent the true results. An example of a “control” variable was asset type, which determined whether the asset was an office or industrial property. The team controlled for the holding period of the assets, as well as market tier, as there are differences across markets.

²Change in value of properties defined as: (price at disposition - price at acquisition) / (price at acquisition).

Results

The study found that micro assets outperform macro assets. The results, with a 90% confidence level, showed that micro assets had an 8.76% higher IRR. The study also revealed, with a 99% confidence level, that the change in value of micro assets is 15.97% higher than the change in value of a macro asset. The study concluded that, under the tested conditions, there was statistical significance that micro assets provide higher returns than macro assets, with other conditions remaining the same. Figure 2 graphically demonstrates that in 75% of the years sampled, micro assets exhibited higher IRRs than macro asset.

fig. 2: IRR Comparison by Real Estate Assets Acquired 1993-2016

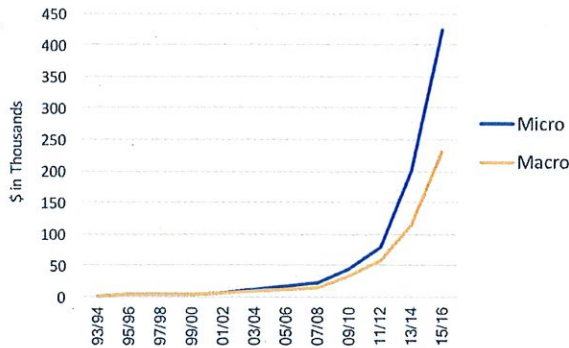


Volatility

As risk increases, investors expect a higher return for their investment. As expected from the results, micro assets had an average annual volatility of 25.34% compared to 17.91% volatility for macro assets. To make the results more robust, this study's data was compared to the Nasdaq U.S. Small and Large Cap Real Estate Total Return Index. Figure 3 visually shows micro asset outperformance. But, impressively enough, the small cap index exhibited an average annual volatility of 14.06% compared to the 14.32% experienced

by the large cap index. From this study's data sample, the results show that micro assets have higher volatility and that helps to explain why they have an increase in performance

fig. 3: Hypothetical Growth of \$1,000



Geographic Distribution

Figure 4 also shows the geographic breakdown of micro asset outperformance, as seen in this study's sample.

fig. 4: IRR Comparison by Geographic Region

	Total	Micro	Macro	Delta
Mid West	35.3%	41.5%	22.1%	+19.4
North East	41.4%	50.8%	31.4%	+19.4
South East	20.3%	21.4%	17.4%	+4.0
South West	30.9%	35.8%	24.4%	+11.4
West	33.7%	32.9%	35.2%	(2.3)

The results show that both the Midwest and Northeast regions have a difference of 19.4% between the micro assets and macro assets, respectively. This means that these regions appear to present the best opportunity to generate a higher return. The Northeast sampling included predominately tier I and tier II cities (i.e. New York, Boston, D.C., and Philadelphia). However, the micro asset observations within those markets were

predominately located in the suburban areas of those markets, which show more characteristics of a tier II and tier III market than a tier I market.

Underlying Theories

Academic & economic research supporting findings

When reviewing academic and economic literature to validate the study's findings, three theories emerged as fundamental drivers that support the micro asset thesis.

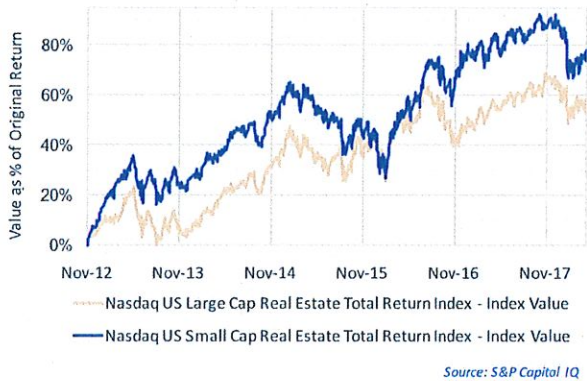
Small Firm Effect

One explanation for the results of the study may be explained by the small firm effect. The small firm effect is a theory asserting that small cap firms outperform large cap firms. Previous academic research proves that the theory holds true for the U.S. stock market. However, the small firm effect was also found to hold true for U.S. Real Estate Investment Trusts (REITs) by McIntosh, Liang, and Tompkins (1991).³ In the real estate investment market, REITs are one of the dominant forms of real estate equity ownership. McIntosh, Liang, and Tompkins studied the effect of firm size and found that small capitalization REITs have higher returns than large capitalization REITs without increasing the risk profile. Since there is evidence that the small firm effect holds true regarding REIT investments, the same logic may help explain why a small cap private equity real estate (PERE) firm would outperform a large cap PERE firm. Simply put, small cap REITs are likely

³Youguo Liang, Willard McIntosh, and Daniel Tompkins, "An Examination of the Small Firm Effect within the REIT Industry," 1991.

investing in micro assets, while large cap REITs are likely investing in macro assets. Additionally, data compiled from S&P Capital IQ shows two NASDAQ real estate indices (small cap and large cap) performance from 2012-2017. The graph below shows that over the five-year period, the small cap index outperformed the large cap index.

fig. 5: Real Estate Index Value (2012-2018)



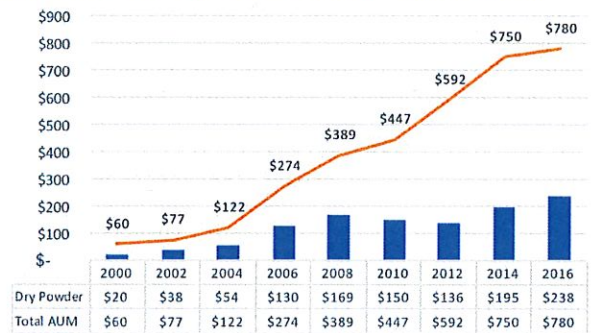
Oversupply at the Macro Asset Level

Another possible explanation for the results of the study is that buyers in the micro segment are less pressured than macro buyers when purchasing assets because the micro asset buyers may have less stringent investment requirements. Because there may be less cumbersome investment requirements for micro asset investors, they may be able to exert more price discipline by purchasing undervalued properties. Once acquired, the micro asset investors are then able to add value and exit the market, possibly even at the macro asset level. When exiting, these micro assets often have a higher IRR and a higher value change than their macro asset counterparts.

Since 2000, assets under management (AUM) in the private equity real estate (PERE) industry have experienced a CAGR of 16.5%. Subsequently, this

rapid growth has resulted in a CAGR of 15.9% of dry powder⁴ in the industry. Although the industry has adjusted to the growth by decreasing the unused capital as a percentage of AUM (33% in 2000 and 30% in 2016), this issue has continued to affect larger PERE funds more than smaller PERE funds. As total unused capital continues to increase, the trade-off between capital deployment and deal selectively becomes increasingly important to funds, especially larger funds.

fig. 6: Global PERE (AUM vs. Dry Powder) (\$ in billion)



In aggregate, larger PERE funds have had to bear the brunt of these capital concerns. A study performed by Preqin found that 30% of the capital raised in the PERE industry from 2003-2013 came from funds with AUM of less than \$100 million, while the remaining 70% of capital was raised by funds greater than \$100 million.⁵ Additionally, Pitchbook performed a study which found that since 2013, funds under \$100 million have accounted for less than 1% of the total unused capital available in the private equity industry.⁶

⁴ Dry powder is defined as contributed capital, in the context of a PERE fund, that has not yet been deployed by the fund.

⁵ "Preqin Special Report: US Private Equity Real Estate Fund Management Industry," 2013, http://docs.preqin.com/reports/Preqin_Special_Report_US_Real_Estate_Sep_13.pdf.

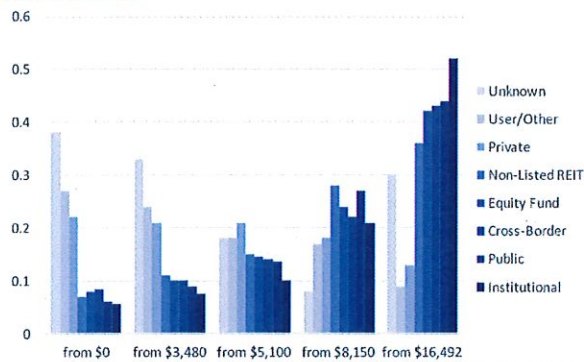
Given the increasing amount of unused capital for funds larger than \$100 million, it is reasonable to assume that larger funds have more pressure to deploy capital than smaller funds. The desire to meet investor requirements may result in less deal discipline for a larger fund manager. Figure 7 below highlights the average deal transaction size for PERE funds based on four asset classes: office, industrial, retail, and mixed-use. This figure highlights the fact that, on average, a PERE transaction will be greater than a micro asset transaction.

fig. 7: Average Deal Size by Asset Type and Region (\$ in Millions)

(MM)	Office	Retail	Industrial	Mixed Use
West	90	42	39	86
South West	98	36	69	156
Midwest	77	34	28	109
South East	64	25	24	49
North East	124	101	44	81

Source: Preqin Real Estate Online

fig. 8: Percentage of Properties Bought by Type of Investor (\$ in millions)



Source: Real Capital Analytics

Figure 8 highlights the phenomena that professors Geltner and van de Minne from the MIT Real

⁶ Black, Garrett James, "The trillion-dollar question: What does record dry powder mean for PE & VC fund managers?" 2018, <https://pitchbook.com/news/articles/the-trillion-dollar-question-what-does-record-dry-powder-mean-for-pe-vc-fund-managers>.

Estate Center discussed in their 2017 paper. They argued that "institutional investors may only consider very large price points [macro assets], while small institutions and investors may be confined to smaller price points [micro assets]."⁷ Of the real estate assets priced between \$0 and \$8.1 million, 60-80% of those assets were purchased by either a private buyer, other buyers, or are simply unknown. Private equity fund buyers only accounted for 5-15% of the purchases between \$0 and \$8.1 million. Of the real estate priced above \$16.5 million, more than 90% of the properties were purchased by private equity funds, institutional investors, direct investments or publicly traded entities.

Inefficient Market Hypothesis

Another possible explanation for the results of the study may be the inefficient market hypothesis. Furthermore, a study performed by professors Geltner and van de Minne, from the MIT Real Estate Center, further corroborated the results of the study as well as the inefficient market hypothesis.

The small firm effect is a major anomaly in the market efficiency hypothesis. In an efficient market, it is not possible for an investor to outperform the market because all available information is already built into stock prices. In contrast, Graff and Webb (1997) assert that the office real estate

⁷ Geltner, David M. and Alex van de Minne, "Do Different Price Points Exhibit Different Investment Risk and Return in Commercial Real Estate?" *MIT Center for Real Estate*,

⁸ Richard A. Graff and James R. Webb, "Agency Costs and the Inefficiency in Commercial Real Estate," *Journal of Real Estate Portfolio Management*, 1997.

⁹ Ibid.

market is highly inefficient.⁸ Graff and Webb argue that the inefficiency in the real estate market is a consequence of agency and transaction costs as well as information asymmetry.⁹ Information is tightly controlled by investors and investment managers, making them privy to private information. Chung, Fung and Hung, analyzed 176 U.S. REITs between 1998 and 2005 and found an average inefficiency rate of 45.5%.¹⁰ Chung, Fung, and Hung acknowledge that information asymmetry plays a role in contributing to U.S. REITs inefficiency.¹¹

Additionally, the findings of the study are consistent with the Geltner and van de Minne paper discussed earlier. In this study, it was found that "the average total return of high price point properties is approximately 30 bps less than low price point properties."¹² The professors concluded that "this would seem to reveal a violation of the Law of One Price, an arbitrage opportunity in the investment real estate market. This should be possible only if there are significant barriers to capital flow across the price points."¹³ They go on to argue that the varying price points could reflect different "goods" which would explain the supposed violation of the Law of One Price. The professors also note that "larger properties have better information (i.e. less uncertainty about the facts and characteristics and considerations that

affect their value at the individual property level). [This] suggests that higher price point properties [macro assets] reflect relevant information sooner than the bottom price point properties [micro assets]."¹⁴ Because the relevant information is made available sooner for macro assets, this information delay may help explain the difference in micro asset returns vs. macro asset returns.

In the micro asset market, there is also an opportunity for firms to "graduate" into the macro asset sector. This graduation allows for the asset to be sold in a market where there are greater pricing efficiencies, meaning that an investor will more likely dispose of an asset at an appropriate market value. In the study, 15% of the observations were properties that were acquired as micro assets and became macro assets when they were disposed. Micro asset investors can add significant value to micro assets and have them later be sold into the macro asset market. The benefits of this peculiarity do not work in reverse; if a macro asset were to become a micro asset, this would surely result in a loss for the investor. Micro assets can capture upside benefits with a smaller downside effect than their macro asset counterparts.

10 Richard Chung, Scott Fung, and Szu-Yin Kathy Hung, "Institutional Investors and Firm Efficiency of Real Estate Investment Trusts," *Journal of Real Estate Finance & Economics*, 2012.

11 Ibid.

12Geltner, David M. and Alex van de Minne, "Do Different Price Points Exhibit Different Investment Risk and Return in Commercial Real Estate?" *MIT Center for Real Estate*,²⁰¹⁷

13 Ibid.

14 Ibid

Conclusion

Given the research supporting the hypothesis that U.S. REITs are inefficient, data discussing an over-supplied macro market, as well as research corroborating the study performed in response to micro vs. macro assets, it is likely that market inefficiencies, caused by the small firm effect, also occur in the office and industrial real estate industry. This causes greater returns for micro assets.

Historically, institutional investors have focused their attention on macro assets because of the limited number of investments in their portfolios and the perceived belief of superior financial returns by paying higher premiums. However, this document's study, as well as the Geltner and van de Minne paper, show that assets perform better at the micro level. Because practical capital barriers (i.e. more stringent capital requirements for larger funds and asymmetric information) exist between micro and macro assets, they are largely unnoticed by institutional investors. The added upside of a micro asset becoming a macro asset also helps explain the results of the study.

Commonly Asked Questions

This section focuses on commonly asked questions surrounding investment in micro assets.

Has the micro investment strategy only outperformed the macro investment strategy due to optimal market conditions?

Figure 9 shows the change in IRR relative to all the years observed from the study's data sample. The entire data set includes both micro and macro transactions. The results show that micro assets outperform the entire data set in all four-time period segments. It should be noted that real estate assets acquired from 2005 to 2009 are highly statistically significant, within a 99% confidence interval.

As seen in figure 9, the IRR is approximately 20% lower during the years that encompass the 2008 financial crisis. In the years after the crisis, the data does not provide statistically significant results, which means that the optimal market conditions after 2009 are not statistically linked as the driver of higher returns of micro assets. Figure 9 also demonstrates that the market is not currently over performing but has simply returned to normal/expected levels. In summary, the investment thesis that micro assets yield greater returns than macro assets does not appear to be affected by the cyclical nature of the real estate market.

In a perfectly competitive and efficient market, assets should be priced accurately and therefore returns should reflect information available to the public. However, the results of the study show that micro and macro assets have substantially different returns. One could argue the reason

that micro outperforms macro is because the micro assets have superior performance, which is positively correlated with the expansion phase of the real estate cycle. Figure 9, however, demonstrates that in the same real estate cycle, returns have moved in the same direction, and that micro assets were more volatile during the recession, making the results unbiased.

fig. 9: IRR Sensitivity Analysis by Year

	Entire Data Sample	Micro Assets Only	Macro Assets Only
2000-2004	-13.40%*	-13.46%	-5.75%*
2005-2009	-19.67%**	-18.82%**	-12.54%
2010-2014	6.87%	14.48%	-3.93%
2015-2018	0.32%	7.18%	-5.88%

*Significant at a 90% Confidence Level

**Significant at a 99% Confidence Level

If micro assets deliver outperformance, why is the sector not overcrowded?

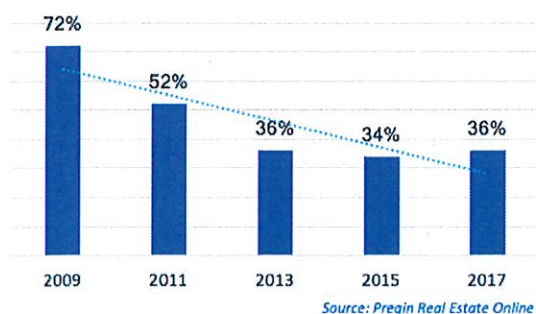
Advocates of market efficiency theory believe that if micro assets truly outperform macro assets, then the market should correct for this anomaly by having more capital investment in the micro market. However, this does not appear to be the case in practice. The underlying theory section argued that the real estate market is inefficient due to the differences in information between investors. Some local investors are privy to information about opportunities that others are not. Additionally, larger PERE funds have practical investment limitations and mandates that disincentivizes them from making smaller investments. Theoretically, a large PERE fund that wanted to invest in the micro market would need to hire more employees (or hire a third-party) to manage the larger portfolio of micro assets. These costs

would drive up operational overhead and ultimately lower the fund's profitability.

The underlying theory section also discussed the increasing proportion of uncommitted capital belonging to larger limited partners. These limited partners have flooded the real estate market with larger capital commitments, which has caused the average PERE transaction size to grow (as highlighted in figure 7). As the commitments have grown, general partners have more capital to allocate than ever before. Larger investments (i.e. macro assets) in a fund will allow the general partner to deploy capital faster and meet investment requirements sooner.

There has, however, been a growing number of institutional investors focusing on emerging manager programs. These emerging manager programs vary in size and scale, but emerging managers are more likely to invest in micro assets than established larger fund managers. It is unclear whether PERE funds have captured significant commitments from the increase in emerging manager programs.¹⁵ Figure 10 shows recent sentiments from institutional investors and their willingness to invest in new and emerging real estate managers.

fig. 10: Proportion of Investors That Will Invest in or Consider First-Time PERE Funds



How sustainable is the micro asset investment thesis?

The underlying theory section argued that the small firm effect, oversupply at the macro asset level and inefficient markets are the key drivers of the micro asset investment thesis. However, it is also pertinent to evaluate the asset class, office and industrial real estate, as well as the lending markets when discussing the sustainability of the thesis.

Office overview

According to a recent Q1 2018 economic study by CBRE,¹⁶ office and industrial real estate assets are showing favorable market conditions. CBRE anticipates "improved U.S. office market fundamentals, but at a slower pace due to higher completions and the tight labor market's impact on demand."¹⁷ The study also mentions that suburban submarkets are "well positioned to capture demand from the maturing millennial [population]."¹⁸ Figure 11 highlights the historical growth rate of the office market using two metrics. The number of office-using jobs added per year and the office-using job growth (as a percentage of the prior year).

CBRE also has a favorable outlook for the office market due to increasing trends of the tech sector. CBRE believes that "in leading tech markets,

15 Emerging manager definition varies by firm. Generally, less than \$500 million with managers on their 1st, 2nd or 3rd fund.

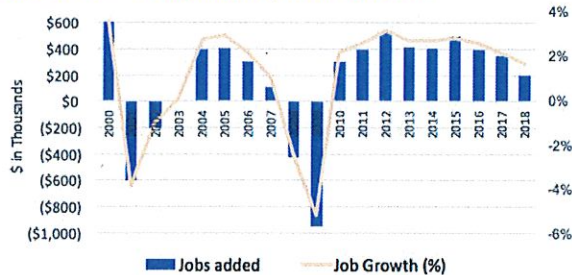
16 CBRE Research, "2018 Real Estate Market Outlook: United States. <http://cbre.vo.llnwd.net/grgservices/secure/2018%20US%20Real%20Estate%20Market%20Outlook.pdf?e=1525642663&h=e6ee53ee2902915fb98d2338add48c79>.

17 Ibid.

18 Ibid.

as well as emerging, lower-cost tech hubs, like Charlotte and Phoenix, [technology firms] will likely remain a primary demand driver in 2018.”¹⁹

fig. 11: Office – Using Employment Growth



Industrial Overview

CBRE holds an even more favorable view of the industrial/logistics market. CBRE cites that “omnichannel supply chain strategies and the growth of e-commerce have been the primary drivers of demand during this cycle.”²⁰ CBRE still believes that although the current economic cycle is “a bit extended, we are still at a very early stage in the e-commerce and omnichannel cycle.” The largest driver of this is e-commerce sales, which is forecasted to grow by 10% annually, and to top \$500

fig. 12: U.S. Availability Rate & Rent Growth



Source: CBRE Econometric Advisors, Q3 2017

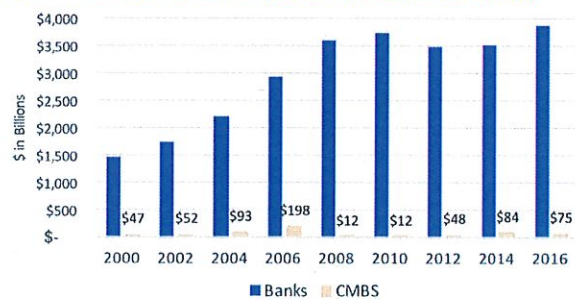
19 Ibid.
20 Ibid.
21 Ibid.
22 Ibid.

billion as an industry by 2020. Because of the “demand for high-quality, well-located [assets] industrial real estate should not wane anytime soon.”²¹ CBRE is quick to point out, however, “that cap rates and investment prices appear to have stabilized”²² within the industrial market. Figure 12 below shows the U.S. availability rate and rental growth of the industrial market since 2012.

Debt Market Overview

Micro assets are primarily financed by local, regional and sometimes national banking institutions. Macro assets are primarily financed by national banks, life insurance companies and commercial mortgage backed security (“CMBS”) loans. Despite the 2008 economic crisis, lenders have increased their appetite for real estate loans and have shown no signs of slowing down. Figure 13 highlights the historical real estate lending environment for commercial banking loans vs. CMBS loans. Although CMBS loan commitments have grown since the financial crisis, a significant portion of real estate lending still occurs at the banking level, meaning that despite tightening real estate underwriting standards, banks still view real estate lending as an integral part of its business. This is an encouraging trend for micro assets, as they are primarily financed by the banking industry.

fig. 13: Real Estate Lending US Only (Banks vs. CMBS)



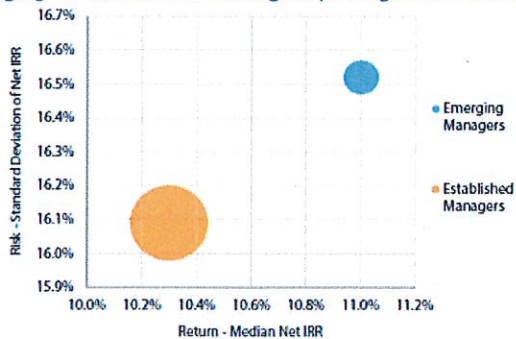
Source: Federal Reserve Board

Why should an institutional investor care about the micro asset investment thesis?

The study supports the thesis that micro assets outperform macro assets, yet few institutional investors are investing in the asset class.

Prequin's May 2017 Special Report: Emerging Managers in Real Estate ²³ highlight this anomaly by noting that "many institutional investors are not prepared to back emerging managers given the additional uncertainty of performance of newer managers, however...institutions that do have the resources to conduct due diligence on newer firms have the potential to be rewarded for doing so. The IRRs generated by emerging fund managers exceed those of more established firms in all but one vintage year between 2004 and 2014" Figure 14 below shows the actual average IRR's between emerging managers and established managers. The average fund size of an emerging manager, within the below data set, was \$154 million while the average fund size of an established manager was \$568 million.

fig. 14: Risk/Return of Closed-End Private Real Estate Funds: Emerging vs. Established Managers (Vintage 2004-2014)



Source: Prequin Real Estate Online

23. Prequin Report <http://docs.prequin.com/reports/Prequin-Special-Report-Emerging-Managers-in-Real-Estate-Managers-May-2017.pdf>

If the attractive returns offered by the micro asset investment thesis do not attract investors there may be additional qualitative factors preventing institutional investors from investing in the micro asset space. The next two paragraphs discuss two qualitative reasons why institutional investors should consider the micro asset investment thesis. The initial study showed that micro assets yield greater returns across all geographies and that these results were affected by the real estate cycle. A key driver of the micro asset thesis is the information asymmetry that exists between micro and macro asset investors. This occurs because of the advantages a micro asset investor has in a local market vs. macro asset investors, who are primarily investing in non-local markets. A locally based fund manager with many years of experience and key relationships within its respective micro asset market, would be the optimal candidate to implement the micro asset thesis. Institutional investors would gain additional alpha by partnering with funds which implement the micro asset investment thesis.

A second qualitative reason for investors to consider the micro asset thesis relates to the institutional investor industry. As the industry's investment opportunities have consolidated the need for institutions to find new and innovative ways to maximize, alpha has increased. Ironically enough, institutional investors need new and innovative investment strategies, like the micro asset investment thesis, to exist and to succeed for the industry to continue to grow. According to the previously mentioned Prequin report, Emerging Managers in Real Estate, "public and private sector pension funds form the largest proportions of investors in emerging manager's funds at

24% and 22%, respectively." As public and private sector pension fund commitments continue to reach all-time highs, the need for investments that outperform the market become even more magnified. Foundations and endowments are also suffering from the need to outperform the market as their AUM continue to increase. From an investor's perspective, the ability to enter into the micro asset market allows them to enter into an inefficient market in which superior investment returns can be achieved.