

Office Property and Investor Illusion: MSA Size, AUM, Risk and Return



Are investors on the right track? Maybe not!

Dr. Randall Zisler

Outsourced Research

Zisler Capital Associates, LLC

rzisler@zislercapital.com

Our site: www.zislercapital.com

310-560-1192

June 28, 2023 (Revised November 12, 2025)

What is Outsourced Research?

I am in the truth business, so I pride myself on being a steadfast critic of the received wisdom. I work in a sector that embraces too many stories and too little science. My goal: To give voice to important ideas that, if understood and properly applied, energize and fortify investors. I build models in search of inflection points that matter.

Outsourced Research is objective, thought-provoking, non-mainstream real estate research. My unique research focuses on the most critical issues facing institutional investors, their investment committees and their managers. I speak truth to capital. Managers can read what I am telling their clients.



I blend corporate finance, fixed income, portfolio management factor risk and Monte Carlo simulation, derivatives and embedded options, and real estate economics. We embrace econometrics but always respect the data and their limitations, whether they reside in data banks or emerge real time from the field.

Real estate, unlike ocean liners that float around the world, is fixed in space, which critically affects how economic shocks affect property performance and risk. I integrate real estate performance with spatial economics.

We have something important to say about underwriting MSA risk and portfolios that span many MSAs.

I like to think of my work as **sardonic research**: Humorous but critical, urgently needed and at times counterintuitive, but always actionable.

Outsourced Research is a virtual forum for evidence-based thinking. We stimulate and deliver visibility to managers and investors alike through our papers, blog, webinars and town halls.

Visit our website at www.zislercapital.com or call 310-560-1192.

Table of Contents

I	Preface	4
II	Executive summary	5
III	The office inventory and population distributions	6
IV	Conclusion: Investor implications	10
V	Appendix	11

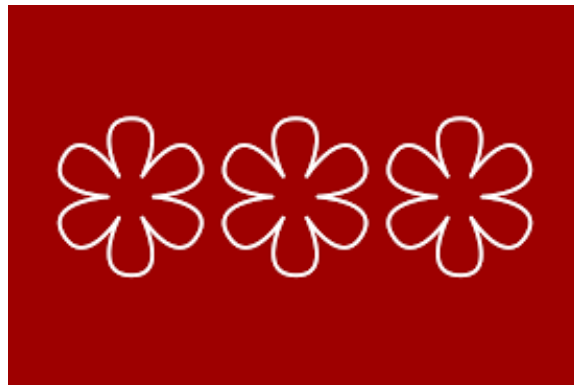
I. Preface: Is there a Michelin method of picking MSAs?

Institutional investors concentrate their office investments in larger MSAs. Why? Is concentration a good idea?

Judging by what investment managers buy and where they buy it, their preferred investment habitats feature exclusive restaurants and tony hotels. Maybe culinary opportunity is just a product of investing in larger cities, which investors seem to prefer. We should always distinguish between causality and correlation.

While high cuisine may be a collateral benefit, the causal relationship between the quest for higher fee revenue through rapid assets under management (AUM) growth and the size of targeted MSAs seems strong. Larger inventories, other factors held constant, facilitate the growth of AUM, if not higher returns, given the risks.

However, Investors should ask, do these larger MSAs deliver an attractive risk-adjusted return and not just a tasty meal?



We give this report a Michelin 3-Star Rating

II. Executive summary

“The cause is hidden; the effect is visible to all.”

— Ovid

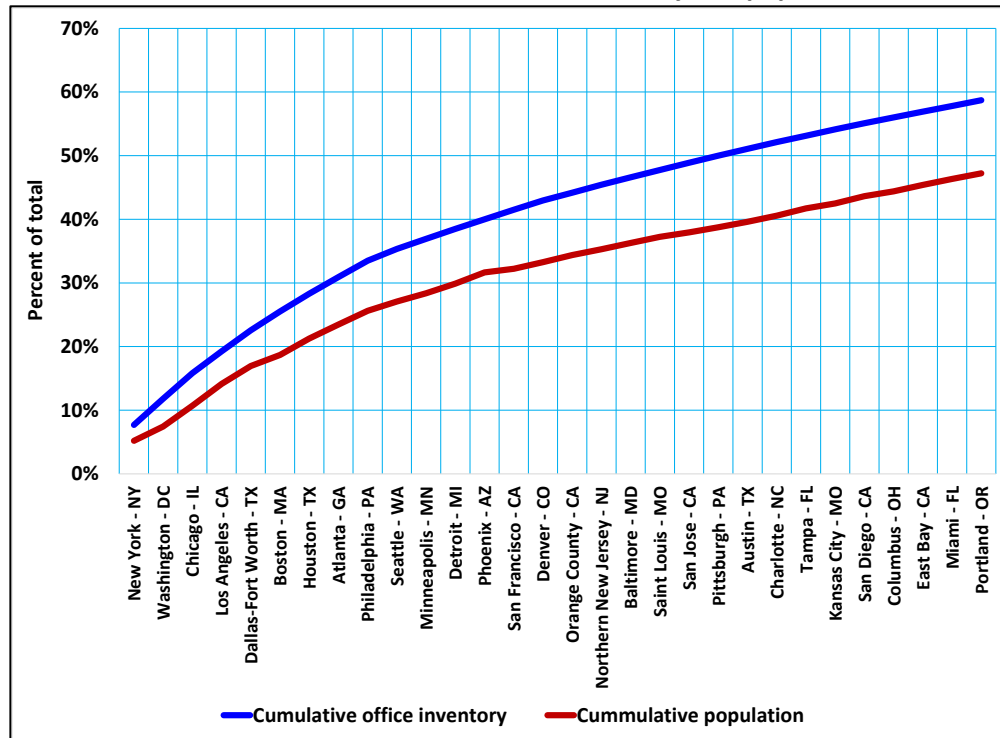
1. Office property is more concentrated in larger MSAs than population.
2. Institutional office investments are even more concentrated in MSAs with the larger office inventories.
3. For example, the New York metropolitan area (MSA), which contains 7.6% of the office inventory, has 16.8% of NCREIF office investments. Compare 16.8% of office investments with 5.1% of the population.
4. Each MSA has unique economic characteristics and these characteristics affect the speed of adjustment to shocks, which, in turn, influences short-run performance. An important characteristics is the office supply elasticity, which is practically zero in New York and San Francisco. These cities are more sensitive to demand shocks. Hence, their office return and rental market rate volatilities are higher.
5. We used NCREIF data to determine in which MSAs and the amount NCREIF office contributors (institutional investors) invested in the fourth quarter of 2022. We combined these data with COSTAR data.
6. Institutional investors prefer larger MSAs with larger office inventories (INVENTORY). They tend not to invest in MSAs with higher population growth. Investors apparently decide where to invest based on historic returns. Interestingly, the volatility of returns does not deter investors, especially if they prefer larger MSAs.
7. The larger is the MSA office inventory, the smaller is the realized return. Higher population growth is associated with lower returns. This is an important finding, which calls into question investors' propensity to favor fast growing MSAs. Faster growing MSAs may have greater and more volatile supply-demand imbalances.
8. Returns increase with higher MSA return volatility. Rental growth volatility, which reflects supply-demand imbalances, has a negative correlation with returns, but the relationship between rental rate growth and returns is positive.
9. Risk-adjusted returns are negatively associated with the size of the office inventory, the rate of population growth, the overall volatility of returns and the volatility of the rate of office rental growth.

II. The office inventory and population distributions

One of the most important, but poorly studied, stylized facts about the office building sector is its concentration in larger MSAs. Why is the size distribution important. To the degree that larger MSAs are different from smaller MSAs, NCREIF investment concentration in the larger MSAs, especially those with highly inelastic supplies of office space, could result in greater rental growth and return volatility. We show that such is the case.

Exhibit 1 compares the size distribution of the office building sector with the population distribution. The top 21 MSAs (by size) account for 50% of the office inventory. By contrast, those cities house 39% of the population. New York's share of the office inventory is 7.6% but its population constitutes only 5.1%.

Exhibit 1. The size distributions of MSA office inventory and population



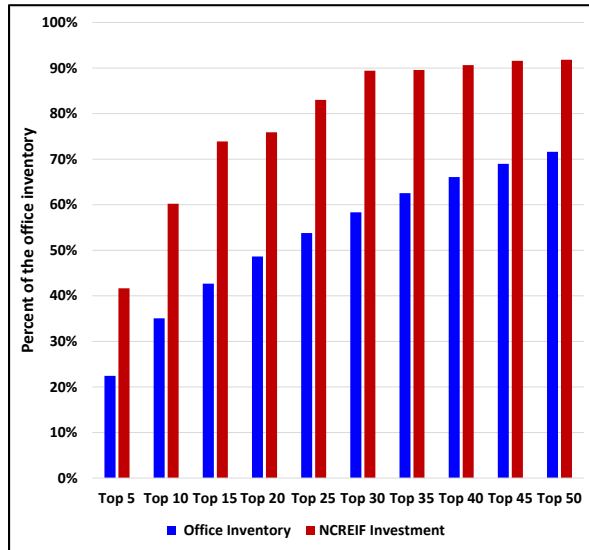
Source: Zisler Capital Associates, LLC

The office inventory is concentrated in the larger MSAs. What can we say about the concentration of office investments owned by NCREIF contributors? NCREIF investor capital is more concentrated in the larger MSAs, a relationship which is true for the top 50 as well as the top 5. (See Exhibit 2.) A one percent increase in MSA population is associated with a 1.28% increase in the office inventory; large cities tend to be office intensive with respect to population.

Exhibit 3 shows that New York MSA, which contains 7.6% of the office inventory, has 16.8% of NCREIF office investments. Compare 16.8% of office investments with 5.1% of the population. Washington, DC has 4.1% of the office inventory but is home to 10.8% of NCREIF office investments. The dominance of NCREIF office investments over the inventory share is a general pattern, but there are exceptions among

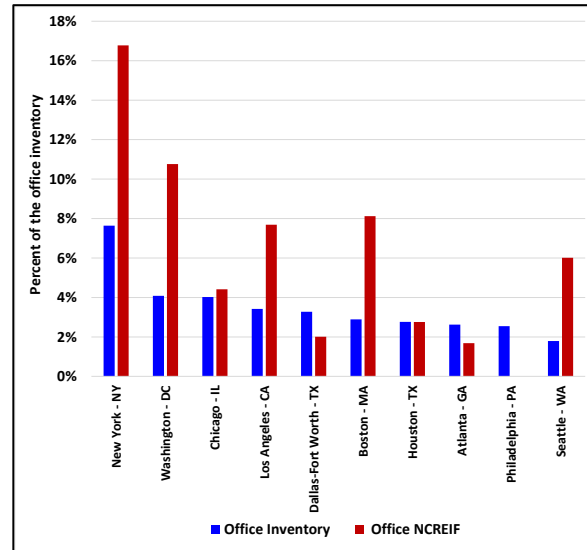
the top ten MSA inventories. The NCREIF share is less in Dallas-Ft. Worth, Houston (by a small amount), Atlanta, and Philadelphia, where no NCREIF contributor owns an office property.

Exhibit 2. NCREIF investor capital is more concentrated in the larger MSAs, a relationship which is true for the top 50 as well as the top 5.



Source: Zisler Capital Associates, LLC

Exhibit 3. NCREIF investor capital invested in New York and Chicago is more concentrated nationally than the office inventory



The speed by which urban areas adjust to shocks affects short-run performance. The adjustment rate, which is slow, varies by MSA, as we have shown elsewhere.

A measure of the responsiveness of supply to demand shocks is the elasticity of supply with respect to price and construction costs. The elasticity is the percentage change in inventory given a one percent change in construction costs (hard and soft). An important insight is that the supply elasticity varies across MSAs, largely due to physical and regulatory differences. If the supply elasticity is very small, next to zero, then rental growth rates, for example, are more volatile and difficult to forecast. They are riskier. However, MSAs, such as Houston, with relatively permissive zoning, typically have higher supply elasticities and more of the adjustment occurs through the vacancy rate. If the supply curve is very inelastic, or even perfectly inelastic, as it is in San Francisco or New York, most of the adjustment occurs through rental rate changes. Hence, the more demand fluctuates against a highly inelastic supply curve, the more volatile are rents, NOI, and total returns.

The cap rate is positively correlated with the supply elasticity. A perfectly inelastic supply curve, as in the case of San Francisco, is associated with a cap rate that is 45 bps lower than the cap rate in Houston, holding the other variables constant. Market rental volatility is inversely related to the elasticity of supply with respect to price. Buildings are highly durable and long-lived. The inventory is sticky-downward so that whenever there is a recession, the primary adjustment takes place through absorption, vacancy rates and most critically, the effect market rental rate. The more inelastic is the supply, then rental change becomes the most important adjustment mechanism. In MSAs with higher elasticity, vacancy rates play a larger role. If there already is substantial vacancy, the absorption rate becomes critical.

III. Office capital placement, investor preferences, return and risk

Section II discussed the stylized facts regarding the concentration of population, the office inventory, and NCREIF contributors' investments. In this section (and in Equation 1) we evaluate the factors that are associated with NCREIF investments (INVEST) across MSAs as of the fourth quarter of 2022.

Equation (1) shows that INVEST increases with larger MSA office inventories (INVENTORY). NCREIF investors tend not to invest in higher growth MSAs (POPGROWTH). Investors apparently decide where to invest based on historic returns (RETURN). Interestingly, the volatility of returns does not deter investors, especially if they prefer larger MSAs, which have lower supply elasticities.

$$\begin{aligned} \text{INVEST} = & -9.229 + 0.031 * \text{INVENTORY} - 0.007 * \text{POPGROWTH} + 0.229 * \text{RETURN} & (1) \\ & (-6.619) \quad (26.976) & \quad (-1.701) & \quad (2.201) \\ & +1.040 * \text{RETURNRISK} \\ & (6.341) \\ & \text{Adjusted } R^2 = 0.716 \\ & \text{Observations} = 389 \end{aligned}$$

What factors are associated with returns (based on data from COSTAR)? The larger is the MSA office inventory, the smaller is the return (RETURN). Higher population growth is associated with lower returns. This is an important finding, which calls into question investors' propensity to favor fast growing MSAs. Faster growing MSAs may have greater and more volatile supply-demand imbalances. However, equation 2 says that RETURN increases with higher MSA return volatility (RETURNRISK). This finding could be consistent with the correlation between MSA inventory size and return volatility. Rental growth volatility, which reflects supply-demand imbalances, has a negative correlation with returns, but the relationship between rental rate growth and returns is positive, which is consistent with theory and casual empiricism.

$$\begin{aligned} \text{RETURN} = & 7.415 - 0.003 * \text{INVENTORY} - 0.008 * \text{POPGROWTH} + 0.171 * \text{RETURNRISK} & (2) \\ & (15.918) \quad (-6.949) & \quad (-4.617) & \quad (2.284) \\ & -0.328 * \text{RENTALGROWTHSTDEV} + 0.794 * \text{RENTALGROWTH} \\ & (-7.748) & \quad (10.869) \\ & \text{Adjusted } R^2 = 0.371 \\ & \text{Observations} = 389 \end{aligned}$$

These results challenge much of the received wisdom. An important question arises: Are investors sufficiently mindful of differential MSA risk; if not, do they know how to measure MSA risk?

Investors should focus not just on returns; they should consider as well risk-adjusted returns, assuming that investors are not blind to risk. Equation (3) is a regression of the ratio of returns to risk (using COSTAR data from 2000 to the fourth quarter of 2022). Risk-adjusted returns are negatively associated with the size of the office inventory, the rate of population growth, the overall volatility of returns and the volatility of the rate of office rental growth. However, higher rental rate growth is associated with higher risk-adjusted returns. All of the coefficients are highly significant, judging from the large t-statistics (in parentheses) and an adjusted R² of 0.574, which indicates that this regression explains 57% of the variation in risk-adjusted office total returns.

$$\begin{aligned} \text{Risk Adjusted Return} = & 2.181 - 0.00043 * \text{INVENTORY} - 0.0013 * \text{POPGROWTH} & (3) \\ & (31.300) \quad (-6.242) & (-4.910) \\ & -0.137 * \text{RETURNRISK} - 0.040 * \text{RENTALGROWTHSTDEV} \\ & (-12.274) & (-6.324) \\ & +0.114 * \text{RENTALGROWTH} \\ & (10.492) \\ & \text{Adjusted } R^2 = 0.574 \\ & \text{Observations} = 389 \end{aligned}$$

These are important findings that investors should seriously consider.

Readers should note that we are not proscribing investing in office buildings located in larger MSAs nor are we saying that investors should shy away from higher growth MSAs.

We are, however, emphasizing that investors should be mindful of the risks and should carefully weigh all factors. An investor should quantify existing risk factors, judge whether these factors are fairly priced, and then determine which factors are accretive to the investor's portfolio.

In fact, we feel so strongly about this point that we would never endorse or red-line any particular MSA. The desideratum is whether the strategy is attractively priced. The MSA is only one of many elements comprising the strategy.

In the end, we focus on two issues: (1) What is the risk, not just the return; and (2) what is the marginal performance impact of including a specific asset within an existing portfolio?

IV. Conclusion: Investor implications

“Sometimes people don't want to hear the truth because they don't want their illusions destroyed.”

— Friedrich Nietzsche

The urge to tell investors what they want to hear in words they understand is indeed powerful. However, there are findings that investors should (and must) hear, and managers have a fiduciary responsibility to share these findings even if these insights take investors in directions that are unfamiliar. Not doing so risks value abandonment and unwanted risk assumed.

This report advances a simple message: Investors should carefully examine why they invest in certain MSAs and they should do so with an eye toward risk-adjusted returns.

Do investors confuse institutional grade returns with institutional grade photos?

When investors bid aggressively for trophy properties, do they suffer the winner's curse? Do they regard property as a collector's fancy, much as they might a Fabergé egg? If so, they should recall that investing is different from collecting.

V. Appendix: The dangers of bivariate correlation—A short tutorial

Practitioners (and real estate researcher professionals) usually do not use multiple regression, which is a great tool for isolating one out of myriad other factors affecting a variable, such as returns or risk. In fact, their command of basic statistical procedures is often weak. For those whose job is breezy story-telling, such may not be a career-ending challenge. However, for those serious investors and managers who embrace science, seek evidence-based inquiry, and take fiduciary duty seriously, ignoring good statistical practice could cause investors to leave value on the table and incur needless risk. Consequently, these investors cannot reflexively infer valid relationships from the data. Admittedly, real estate data are not great, but that is why we must employ the best statistical methodologies and constrain the research by theory.

We have shown using multiple regression, not bivariate regression, that MSA population growth is inversely correlated with returns and risk-adjusted returns.

Exhibit 4. Comparison of results from multiple and bivariate regressions

Dependent variable: Risk-adjusted return				
	Multiple Regression	t-statistic	Bivariate Regression	t-statistic
INVENTORY	-0.00043	-6.242	-0.0007	-7.701
POPGROWTH	-0.0013	-4.910	-0.002	-5.119
RETURNRISK	-0.137	-12.274	-0.176	-14.938
RENTALGROWTHSTDEV	-0.040	-6.324	-0.074	-10.651
RENTALGROWTH	0.114	10.492	0.039	2.498

Source: Zisler Capital Associates, LLC

Using multiple regression, we can isolate the partial effect of population growth on performance while holding other factors constant. We cannot do so using bivariate correlations or bivariate regressions. The coefficient estimates are biased if we do not control for other influences (or sources of variation). The problem is called omitted variables bias, which distorts coefficient estimates, the t-statistics (measures of significance), the adjusted R², and other measures of significance. Any conclusions that may suffer from omitted variable bias are immediately suspect and unreliable.

Exhibits 5 through 8 illustrate these points. We compare two samples¹. The first exhibits, Exhibits 5 and 7, include only those MSAs in which NCREIF data contributors provided their performance data in 2022:IV; that sample includes 38 observations. (MSA allocations by these contributors have changed since the beginning of the NCREIF index in 1978.) The larger sample, 389, includes all MSAs, whether or not a contributor allocated capital to each MSA.

¹ NCREIF lists on its site many MSAs. NCREIF contributors invest in a subset of these MSAs. The site includes the market value of investments in each MSA. Based on these data we determined where and to what degree contributors invested their capital. This is the first instance to our knowledge that the market value data have been used in this kind of analysis.

The bivariate coefficients are different depending on the sample size. The risk adjusted return with respect to population growth is -0.002 for the large sample and 0.001 for the smaller sample of NCREIF investors. The signs are different but, in the case of the smaller sample, the overall regression explains none of the variation in risk-adjusted returns. In other words, the bivariate regression is practically useless. The larger sample explains only 6% of the variation and the sign is negative, which is at least consistent with the multiple regression, albeit not in absolute value,

Exhibit 5. The RAR is lower in larger MSAs; sample includes the 38 MSAs in which NCREIF contributors invest.

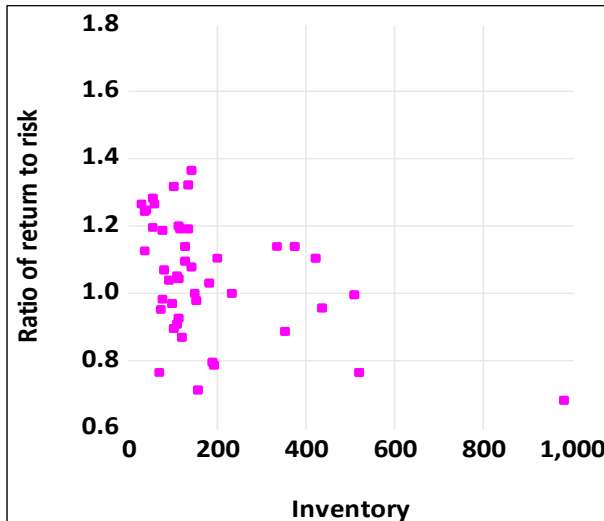


Exhibit 6. RAR for a sample of 389, which represents all MSAs

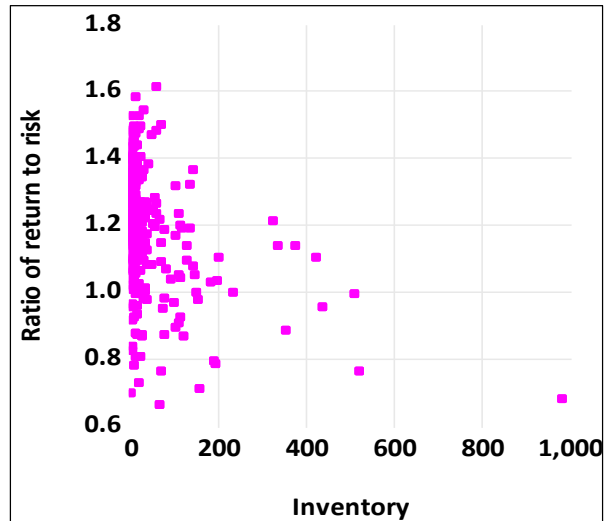


Exhibit 7. Growth would appear to not affect RAR, but this conclusion is wrong; we include 38 MSAs in which NCREIF contributors invest.

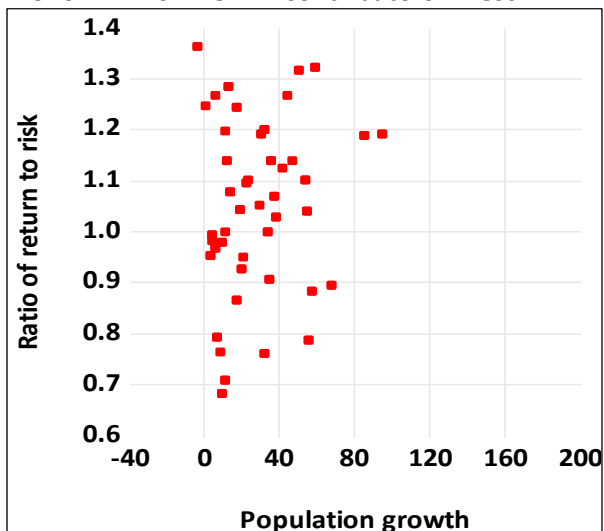
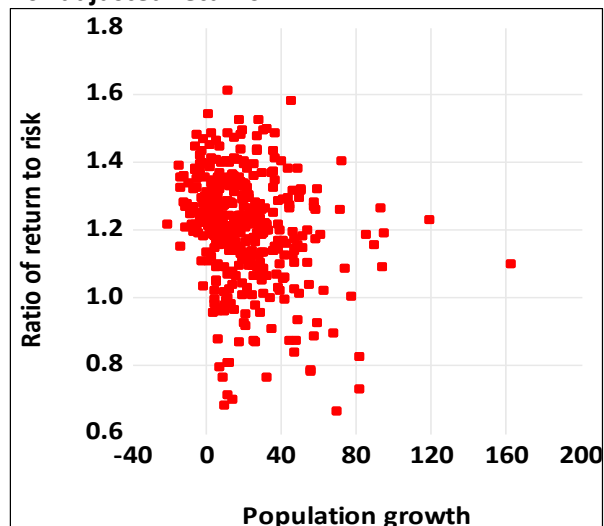


Exhibit 8. RAR for a sample of 389; the relationship is weakly negative; the bivariate regression explains only 6% of the variation in risk adjusted returns.



Source: Zisler Capital Associates, LLC