Some Thoughts on a Possibly Mispriced Risk: State & Local Finances?

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A Mispriced Risk: State & Local Finances?

► What Does Theory Suggest?:
  ▪ The equilibrium condition
  ▪ The search for “alpha”
  ▪ Consider some examples

► A Closer Look at Theory:
  ▪ Equivalent Sharpe ratios
  ▪ Returns $=$ $f(CF_0/P_0, g, ...)$
  ▪ Indifference Curve

► State & Local Finances ← A Mispriced Risk:
  ▪ Pricing
  ▪ Fiscal Solvency
  ▪ Business Climate

► Addendum ← Gateway v. Non-Gateway Appreciation:
  ▪ Growth in Asset Values
In Principle, Equal Risk-Adjusted Returns

• Financial theory suggests that savvy market participants push prices and expected returns (as a $f(risk)$) towards an (ever-changing) equilibrium:

Illustration of Return & Risk
Identifying “Alpha” (or Risk-Adjusted Returns)

- Practice is “noisy” in comparison to theory (skill vs. luck, \textit{ex ante} vs. \textit{ex post}, etc.)
- Active management → look to identify $+\alpha$ and avoid $-\alpha$:

**Illustration of Alpha \textit{vis-a-vis} Equilibrium Return & Risk**

Some investors naively confuse with high returns with $\alpha$; instead, $\alpha$ is (technically) based on risk-adjusted returns. In practice, this is complicated by the difficulties of measuring risk.
The Quest for $\alpha$

- There are many ways to consider possible mispricing opportunities:
  - Core v. non-core property types
  - Within core property types
    - Geographies (e.g., metropolitan areas)
  - Sensitivity to macro-economic factors
  - Class A v. Class B (v. Class C) properties
- Let’s look at a few examples:
The Quest for $\alpha$ (continued)

- There are many ways to consider possible mispricing opportunities:
  - Within core property types:

**Historical Performance of the NCREIF Property Index and Various Property Types for the Period 1978 through 2018**
The Quest for $\alpha$ (continued)

- There are many ways to consider possible mispricing opportunities:
  - Geographies (e.g., metropolitan areas):
    - Nashville ($\alpha = 3.1\%$)
    - New York ($\alpha = -2.1\%$).
    - Past is not prologue!
There are many ways to consider possible mispricing opportunities:

- Sensitivity to macro-economic factors:

For example, the high $\beta$ of the hotel sector may make for an interesting bet on a macro-economic recovering – but less so when facing a macro-economic decline.

Source: *Heard on the Beach*, Green Street Advisors, March 4, 2019.
• There are many ways to consider possible mispricing opportunities:
  
  - Class A vs. Class B properties:

![Stabilized Capitalization Rates, by Core Property Types, at Year-End 2018](chart)

**Note:** The average cap-rate spread, as between Class A and Class B (core) properties, is ≈90 basis points.

**Source:** CBRE North American Cap Rate Survey | Second Half of 2018 and Instructor's calculations.
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Let’s Revisit Risk-Adjusted Returns

Among the many potential mispricing choices, let’s consider geographical (a number of definitional choices) trade-offs:

Pricing Illustration of High- v. Low-Barrier Markets
In Order to Produce Identical Risk-Adjusted Returns

\[
\frac{E(k_{uH}) - r_f}{\sigma_H} = \frac{E(k_{uL}) - r_f}{\sigma_L}
\]

The Required Rates of Return: \( E(k_u) \)

- High-Barrier (or gateway or coastal) markets
- Low-Barrier (or non-gateway or non-coastal) markets
Let’s Consider the Return Portion of Risk-Adjusted Returns

• Ignoring shifting capitalization rates, the riskier market must have a higher initial yield ($\frac{CF_0}{P_0}$) and/or higher cash-flow growth ($g$) – in order to offset its higher risk:

![Graph showing the relationship between initial acquisition yield ($\frac{CF_0}{P_0}$) and growth ($g$) for high-barrier and low-barrier markets.](Image)
Identifying the Indifference Curve

• Given “observables,” we can identify the key unobservable factors:

Pricing Illustration of High- vs. Low-Barrier Markets:
Possible Price Arbitrage based on the Expected Spread in Growth Rates and Estimated Volatility Ratio

If your beliefs place you above this curve, then acquire high-barrier properties.

If your beliefs place you below this curve, then acquire low-barrier properties.

Based on the risk-free rate ($r_f$), estimated $E(g_L)$ and the observable pricing spread: $(CF_1/P_0)_L - (CF_1/P_0)_H$.
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Let’s Consider Pricing by Geographic Tier (I v. II)

• Consider aggregate (core) pricing:

Stabilized Capitalization Rates, by Geographic Tiers and Property Class

- Tier I - Gateway Markets
  - Tier I - Gateway Markets: 5.37%
  - Tier II: 6.32%
  - Tier III: 6.60%

- Tier I - Non-Gateway Markets
  - Tier III: 1.23%
  - Tier II: 0.51%

- Tier III: 1.11%

Source: CBRE North American Cap Rate Survey | Second Half of 2018 and Instructor's calculations.
It is no surprise that many state & local budgets are under enormous financial strain. Consider:


Source: Eileen Norcross, “Ranking the States by Fiscal Condition” (Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, July 2015).

Note: All data are for FY 2013.
Will Aggressiveness Change with State Fortunes?

The Financial Strain = \( f(\text{Unfunded Pension Liabilities}) \)

- It is also no surprise that many state & local budgets are under enormous financial strain due to unfunded pension liabilities. Consider:

Worsening Funding Ratios

- Unfunded pension liabilities generally growing for the last $\approx 20$ years:

Figure 1. *State and Local Pension Funded Ratios, FY 1990-2017*

Source: Center for Retirement Research at Boston College, October 2018.
The Distribution of Worsening Funding Ratios

• Even more worrisome:

**Figure 3. Distribution of 2017 Funded Status**

More investigation into the entities falling well below median

Source: Center for Retirement Research at Boston College, October 2018.
Increasing Realization: Taxing the Rich Doesn’t Work

- At the state & local levels, “tax the rich” policies are increasingly problematic:
  - The income of the rich is more variable than lower brackets
  - The rich move to other states (e.g., Florida and Texas) with lower income taxes

- Calls for “broadening the (income) tax base” will be met with political resistance.

- In order to cope, state & local authorities considering a range of service cuts &/or increasing other forms of taxation (e.g., property and transfer taxes)
  - Both the cuts and the tax increases adversely affect commercial real estate values
Combing State & Local Taxes ← Similar Story

Seems unlikely that states with challenging fiscal conditions can tax their way out of their problems.

Combined State & Average Local Sales Tax Rates, Jan. 1 2017

Note: City, county and municipal rates vary. These rates are weighted by population to compute an average local tax rate. Three states levy mandatory, statewide, local add-on sales taxes at the state level: California (1%), Utah (1.25%), Virginia (1%). We include these in their state sales tax. The sales taxes in Hawaii, New Mexico and South Dakota have broad bases that include many services. Due to data limitations, table does not include sales taxes in local resort areas in Montana. Salem County is not subject to the statewide sales tax rate and collects a local rate of 3.4375%. New Jersey’s average local score is represented as a negative.

Source: Sales Tax Clearinghouse, Tax Foundation calculations, State Revenue Department Websites
What About Property Taxes? ← Similar Story

While California ranks lowly on this list, it has its own challenges with regard to Prop 13 and other regulations.
It Seems Regulatory Burden Are Associated with Finances

Not exactly the conditions that facilitate future growth!
Overall Regulatory Burden Tells a Similar Story

- As an each state’s regulatory climate (liability system, property rights, health insurance, labor market, etc.):

**Selected Rankings:**
- New York 50th
- New Jersey 49th
- California 48th
- Maryland 47th
- Connecticut 41st
- Massachusetts 40th
- Illinois 38th
- Virginia 20th
- ...
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Addendum: Price Changes by Tier I v. II

• Since-trough appreciation returns are nearly identical:

Comparison of Price Appreciation for Core Property Types in Major v. Non-Major Markets for the Period 2001 through 2018

The annual appreciation rate, from the trough value, is approximately 8.3% per annum.

\[ y = 0.3237x + 61.252 \]
\[ R^2 = 0.696 \]

The annual appreciation rate, from the trough value, is approximately 8.1% per annum.

\[ y = 0.1493x + 69.266 \]
\[ R^2 = 0.5066 \]

Source: Real Capital Analytics – Composite Property Price Index and Instructor’s calculations.
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