NAREIM
National Association
of Real Estate Investment Managers

Dialogues

FALL 2017

SIGNS

The Shape of Things to Come.

GOING SOLAR
LAST RODEO
FUTURE OF DATA
STORM RESILIENCY PRINCIPLES
FINDING FUNDING CERTAINTY

A SUPPLEMENT TO INSTITUTIONAL REAL ESTATE AMERICAS, NOVEMBER 2017

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APRIL 10
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Get the... Use the... Share the...

DATA

Chris Happ, *CEO, Goby*

What does it mean for commercial real estate firms to truly adapt a data-driven culture? Some aspects may surprise you

"Data is coming at commercial real estate from everywhere," reports the National Association of Realtors' Commercial Real Estate (NAR) ALERT, which analyzes the latest market trends.[1]

There's no question that commercial real estate is an extremely data-driven industry, as companies collect mountains of it. Data is used for transaction negotiations, long-term value and risk evaluation, development decisions, site selection, facilities management, sustainability reporting, and many more functions.

Yet, the industry still doesn't necessarily identify itself as a data business, and has been relatively slow to invest in data management and analytics software.

Surprisingly, commercial real estate's IT spending as a percentage of revenue comes in at a mere 0.8 percent—the lowest rank of 16 business sectors. Even food and beverage processing – at 1.3 percent – easily surpasses commercial real estate.[2]

Perhaps, part of the resistance to commercial real estate technology is the "way-we've-always-done-it" business mentality and a lack of urgency to change. The industry is used to "static spreadsheets and phone calls as the primary tools for collecting, storing and analyzing data," reports NAR.

A tech disruption on the horizon

However, a technological disruption in the industry is imminent. The benefits of commercial real estate technology are clear in helping streamline decision-making processes.

In fact, 55 percent of commercial real estate executives say technology advancements are "revolutionizing the industry," according to the "2016 Commercial Real Estate Outlook" released by CIT[3]. Despite this acknowledgment, many commercial real estate companies are slow to adopt technology; only 11 percent of respondents rated themselves as "leading edge" when it comes to technology implementation.

The tide is beginning to change. According to JLL's "Top 10 Global CRE Trends for 2016" report[4], 57 percent of industry executives globally plan to enhance their company's data-gathering capabilities over the next one to three years. More than half said the lack of effective data and analytics has hindered their companies from enhancing their strategic value.

How can your team become data-centric and gain a competitive edge?

The world is clearly changing and commercial real estate companies need to appreciate and accept the importance of data and how it can shift their business strategies. There's an abundance of data available, and effectively using it will help companies outperform their peers.

While few would argue with this premise, challenges exist in stepping outside your comfort zone and making the commitment to becoming a data-driven organization. The road to data fluency isn't necessarily easy, but it's very doable. However, just saying you're going to do it is not enough. Organizations must be prepared to adopt this new philosophy.

Three steps to transitioning to a data-driven organization:

STEP ONE: COLLECT THE DATA

Collect and analyze the data in order to try and understand your world better. Companies are generating data on a daily basis; however, few collect it as an asset. The greatest asset a company can have is the data it owns and collects, because that can tell its executives information about its past performance and what that could mean moving forward.

STEP TWO: USE THE DATA (AND EMBRACE IT)

Many firms collect data and perhaps only look at it once or if it tells them what they thought, they're all on board. However, in many cases, it's going to tell them the opposite of what they originally thought, and are they willing to accept and embrace that?

Recognize that sometimes data will show different results than you expected. Embrace it on multiple levels and be willing to accept it and shift your mindset. This is particularly applicable in commercial real estate, which is a very people-and relationship-centric business.

For example, if an investor acquired a building in a particular market, and that market tanked and their transaction went bad, they may say they will never do another deal in that city again. That's part of the human mindset. However, a data-driven culture would not conduct business in that manner.

Humans did not evolve to be logical; we're not wired to be data-driven. Sometimes you have to go counter to the human condition and make the logical decision that the data tells you. It's more important to be logical and thoughtful in order to give your company the best possible odds to succeed.

Forward-looking companies are integrating data into their day-to-day operations and data is at the heart of their important decisions. They're tolerant of questioning – even dissent—about business decisions being made as long as the questioning is based on data. That's what it means to adopt a truly data-driven culture.

Companies need to embrace this different mindset from the start. If you simply say, "Data is important. We're going to look at it," and then hire a data scientist or a couple of IT experts, that's not sufficient. For those in executive levels, it's about embracing a different culture.

[1] NAR Commercial Real Estate ALERT, Analysis of the Latest Emerging Risks and Trends, Researched and Compiled By The Swanepoel T3 Group, 2017

[2] Piper Jaffrey's Real Estate Technology Overview for 2016

[3] CIT Commercial Outlook, 2016

[4] Top 10 Global CRE Trends for 2016, JLL, 2016

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Humans did not evolve to be logical; we're not wired to be data-driven. Sometimes you have to go counter to the human condition and make the logical decision that the data tells you.

Goby is an example

Goby transitioned from a traditional, relationship-based model to a data-driven organization. We started as a consulting company, which is very people-centric. Over the years, the company has shifted into a software company that helps its clients maximize the value of their portfolios using analytics and sustainability best practices.

That's certainly what we learned at Goby when we wanted to help our clients use analytics and data to drive their business. We had to shift our mindset as traditional consultants in order to help our clients do so. It was difficult for us, because in the past, we would always solve problems simply by throwing more intelligent people at the issue – just like most commercial real estate investment firms. Instead, we had to start with the data first, listen to what it was telling us, then implement it."

For example, if a commercial real estate company is about to purchase a building, their first move is to send a group of their people to look at it. Becoming data-centric is not about removing the "people element;" it's quite the contrary, but it's about embracing data as a decision-maker at the table as you add that to your culture as a means to increase your odds for success.

Or another example is an owner is accustomed to a certain number/percentage for their portfolio's net operating income (NOI). That becomes their perceived goal, because that's what the market is used to, that's what's acceptable, and that's what investors demand. They're "anchored" to that number. However, if they would allow themselves to become more data-driven and be open to changing their mindset, they will recognize that there's a lot of opportunity in the data to provide more operational efficiencies, better value and maximize the returns for their investors. They have to let those biases go and use the data to help them make decisions.

STEP 3: SHARE THE DATA; TELL YOUR STORY

Using data to drive better business decisions is important, however, some companies don't take advantage and promote that. The best way is to tell the world why you're a better company because you have a data-driven culture.

Many of Goby's clients use data to tell a story and demonstrate their commintment to ESG, increased energy efficiency or operational improvements. Sustainability equals value, particularly in commercial real estate. Companies can demonstrate that they have a data-driven approach to monitoring utilities and track sustainability performance.

Whatever type of company it is, it will find nuggets to tell its "story." For a commercial real estate brokerage or investment company, the ultimate story is that they outperform their peers because they more effectively interpret and use data as an asset. They understand and are abreast of what's happening in their business. If they make a capital investment, for example, they have the data to support the business case for that investment.

If there's a high-net worth individual or institution looking to place capital with an investment manager – and they have choice between company A or B – why do they choose one over the other? If it's just the people, people change companies all the time. But if the company has underlying fundamentals of logical decision-making – that lives beyond just people. That's a better organization, a better steward of your investment. Clearly, working with data is good for a company's bottom line. Are you ready to take the leap?

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STORM RESILIENCY PRINCIPLES

FOR INCREASING VALUE OF COMMERCIAL REAL ESTATE ASSETS

Bob Geiger, *Principal, National Client Manager, Partner Engineering and Science, Inc.*

EVEN BEFORE Hurricanes Harvey and Irma, which together caused $290 Billion[1] in damage, fifteen of the 30 costliest hurricanes in history all occurred between 2004 to 2013. Although coastal commercial real estate properties in the US face the highest vulnerabilities to hurricanes, flooding from sea level rise, and seismic zone activity, it has not slowed down rates of building[2] or population growth. Even though they only account for 10% of the nation's land area, direct coastlines contain[3] about 40% of the population. From an equity perspective, the top issues with damage from natural disasters are an inability to generate return on investment from properties[4] (loss of cash flow), and catastrophic losses[5] from destroyed buildings. So critical is resiliency to the future of commercial real estate investment, that investors are looking to resiliency metrics[6] in addition to yields and interest rates for long-term asset planning. For current investors and property owners, true holistic resiliency is comprised of three primary considerations: building reinforcements and/or avoiding vulnerable buildings, advanced preparedness for proactive asset management, and post-disaster recovery planning.

INCREASING STRUCTURAL RESILIENCY AND ENHANCED RISK MANAGEMENT

Are you carefully considering your property's risk of loss from high winds in hurricane and tropical storm areas, or damage due to wind-blown debris? The Wind Probable Maximum Loss estimating process is currently being standardized by my colleague Jane Powell and other industry experts on an ASTM International committee, a much-needed initiative to bring consistency to how institutional investors manage high wind risk.

Wind loss estimates should properly incorporate factors beyond lateral wind forces, such as the exposure to wind-blown debris from nearby structures, or the ability of each corner of your building to withstand uplift. Are you familiar with the American Society for Civil Engineers updates to high risk wind zone maps? It's important to see how your property stacks up against updates to Uniform Building Code requirements in vulnerable states (such as Florida), many of which have updated their wind codes. Does your property have clip design or retrofit solutions where roof systems are tied into the foundation anchorage?

For properties in earthquake zones, a thorough, non-invasive seismic risk screening and probable maximum loss[7] estimate per the new ASTM Practice is an essential starting point, but these statistical models are based on older data and are only useful for lowering risk, not eliminating it altogether. As an alternative to the probable maximum loss, you may also consider following protocols from engineering lead managers, like what would be designed and performed in American Society for Civil Engineering. Understanding your engineer's retrofit design experience and expertise specific to the building type, like a tilt-up industrial property, or an unreinforced masonry multifamily property, is key to executing a proper retrofit.

Moreover, damage from storm surge and flooding, which can often be far more detrimental than initial winds, must also be a key consideration. Evaluating whether properties are in a flood zone, and the nature of the flood risk that it entails, is critical. Federal Emergency Management Agency flood zone base elevation maps[8] are a good start, but can be inaccurate by up to 30%, and are therefore often unreliable[9]. For example, 40-50% of Houstonians impacted by flooding after Hurricane Harvey technically lived outside of these putative high-risk flood zones. Land surveys by professional civil engineers can issue a much more accurate elevation certificate. These assessments provide a three-dimensional topographical correlation of your property relative to a flood elevation area, and the potential geotechnical issues that could arise due to flooding (landslides, subsidence, surficial soil erosion).

1 "Hurricanes Harvey and Irma may have caused up to $200 billion in damage, comparable to Katrina" ABC News, http://abcnews.go.com/US/hurri-canes-harvey-irma-cost-us-economy-290-billion/story?id=49761970

2 "Fierce storms haven't slowed population growth along U.S. coastlines" PBS, http://www.pbs.org/newshour/rundown/fierce-storms-havent-slowed-population-growth-along-u-s-coastlines/

3 "How so many of the world's people live in so little of its space" Washington Post, https://www.washingtonpost.com/news/wonk/wp/2015/09/03/how-so-many-of-the-worlds-people-live-in-so-little-of-its-space/?utm_term=.22627bc17340

4 "Harvey hits mortgages as flood-stricken homeowners are unlikely to pay" CNBC, https://www.cnbc.com/2017/08/30/harvey-hits-mort-gages-as-flood-stricken-homeowners-are-unlikely-to-pay.html

5 "The Financial Effects of a Natural Disaster" Investopedia, http://www.investopedia.com/finan-cial-edge/0311/the-financial-effects-of-a-natural-di-saster.aspx

6 "Why commercial real estate investors are looking to resilience rather than yields" Cities Today, https://cities-today.com/industry/commercial-real-es-tate-investors-looking-resilience-rather-yields/

7 "Probable Maximum Loss" Partner Engineering and Science, https://www.partneresi.com/services/build-ing-assessments/seismic-probable-maximum-loss

8 "Base Flood Elevation" FEMA, https://www.fema.gov/base-flood-elevation

9 "Why Are FEMA's Flood Maps So Horribly Flawed?" Slate, http://www.slate.com/articles/health_and_sci-ence/science/2017/09/here_s_why_fema_s_flood_maps_are_so_terrible.html

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DISASTER PLANNING THROUGH PROACTIVE ASSET MANAGEMENT

The Fukushima nuclear meltdown in Japan and Arkema chemical plant explosion in Texas are cases of extreme secondary post-disaster events, but evaluating critical mechanical and engineering systems is important for a variety of industries and property types. Are there any critical operations at or near ground surface or that face disruption with a loss of electricity or one foot of flooding? Storm surge and flooding can pose additional resiliency considerations for your properties that store hazardous materials. Are you meeting or up-to-date on a Spill Prevention Control and Countermeasures Plan that applies based on the gallons of storage capacity thresholds? It's wise for your spill prevention planning and secondary containment features to consider the anchorage and spill protection features necessary to handle high water events. Keeping your storage vessels intact and in-place can save you significantly in restoration and cleanup from tanks that break loose, rupture, or overflow.

Property owners near dangerous industrial plants or flooding risks should assess whether they would be in immediate risk zones for exposure or damage and contact their insurance provider to make sure they are covered.

Is your property pre-programmed to automatically or even manually adjust into an emergency operation mode? Proactively maintaining emergency generator systems (many of which can operate on solar energy) and upgrading them to handle sustained periods of operation following a natural disaster is one of the most important considerations. Utilities companies in Texas[10] and in Florida[11] both struggled weeks after their respective disaster events to restore electricity in full, disrupting everything from cellular service to basic retail (gas, groceries) and residential life. Does your planning consider safety concerns such as carbon monoxide exposure related to prolonged emergency or portable generator operations?

A camera system designed to allow basic observation and assessment in times of need can be critical when the property is physically inaccessible or poses too great of a safety concern. Getting a pair of expert eyes or a video assessment of your property may not be a viable option. Drones cannot legally fly[12] when federal and local authorities ban private use without proper Federal Aviation Administration authorization while rescue operations are underway. Satellite imagery can be limited in resolution without clear skies. Damage assessment for structural or moisture related inspection services can be the best option from firms equipped and experienced in mobilizing resources to the area, but it's typically a few days or the next week until these services can be safely and reasonably executed.

Finally, you need a contingency plan[13] for maintaining accessibility and operation of brick and mortar systems infrastructure. Enforce information technology security and cybervulnerability, which peaks after disaster events[14], with a cybersecurity disaster plan[15] and training.

POST-DISASTER RECOVERY PLANNING

The heavy, multi-directional rains and storm surges of natural disasters present a multitude of resiliency-related concerns. Roofing system elements and roof penetrations need to be secure and properly sealed to handle heavy lateral rains, especially on pitched roofs. Building envelope and window systems on vulnerable sides of the building need proper fortification, thickness, and sealant to withstand moisture making a direct hit and intruding in areas typically safe from vertical rain events. Detailed surveys where foundation and site elevations are confirmed can be instrumental in flood plain exposure and defending flood insurance claims.

Water from storm surges or heavy rain gets in your building in unimaginable ways, and finds its way through new angles and crevices and into areas that you wouldn't expect, and areas you can't see or easily investigate. Finding it all can be more of an art than an emergency response skill for the moisture intrusion investigator. It should be the first step in a response protocol to fully ascertain which areas are most affected by water damage as well as determining the water migration. Water impacted properties create indoor air quality concerns that may need ongoing monitoring for tenant or resident health considerations. Moisture mapping can track the progress of material drying, which is essential in monitoring the possibility of mold and the need to remove materials. This is important for restoration efforts and as documentation for the owner and their insurance company.

Do you have a readily available, detailed asbestos or lead-based paint Operations & Maintenance plan? Clearly outlining what materials are "hot" (asbestos-containing) can save substantial money and time associated with delays in a scenario where impacted materials need to be removed and disposed of. Should you need to confirm materials as asbestos-containing materials in a disaster response scenario, be sure your triplicate sampling and homogeneous material assumptions are sound before letting the remediation contractor loose, and cover yourself with oversight documentation of the remediation contractor's work. Before hiring asbestos and moisture mapping assessment professionals, don't forget that states have differing licensing requirements.

Does your property have a formal storm contingency plan? In addition to the asbestos mapping, cybersecurity and fuel/chemical storage issues discussed above, these should include basic protocols discussing drinking water risks, safety precautions for any industrial machine operations, preparation of safety kits and cash on hand, and readily available insurance procedures to file claims as quickly as possible.

It's the things you DON'T think about that become critical when a disaster event occurs! For property owners and equity investors, this can mean an immediate loss of revenue and long-term asset equity instability. Investing time and resources into upgrading properties, maintaining structural and engineering sustainability, and implementing contingency plans can save you a lot of money and value in the long term.

[10] "Battered Texas town may be without power for weeks" CNN, http://www.cnn.com/2017/08/28/us/rockport-texas-hurricane-harvey-damage/index.html

[11] "A Week After Irma, Florida Families Still Living In The Dark" NPR, http://www.npr.org/2017/09/18/551833707/a-week-after-irma-florida-families-still-living-in-the-dark

[12] "Unmanned Aircraft Systems" Federal Aviation Administration, https://www.faa.gov/uas/

[13] "Security Practices for Smart Buildings: Good, Better, Best: Solution Brief" Intel, https://www.intel.com/content/www/us/en/smart-buildings/security-practices-smart-buildings-brief.html

[14] "What Fukushima Disaster Taught Me About Risk Management In Cybersecurity" Forbes, https://www.forbes.com/sites/williamsaito/2017/04/20/what-fukushima-disaster-taught-me-about-risk-management-in-cybersecurity/#2f451183681e

[15] "Why You Need a Cybersecurity Disaster Response Plan Now" Lunarline Blog, https://lunarline.com/blog/2017/06/why-you-need-a-cybersecurity-disaster-response-plan-now/

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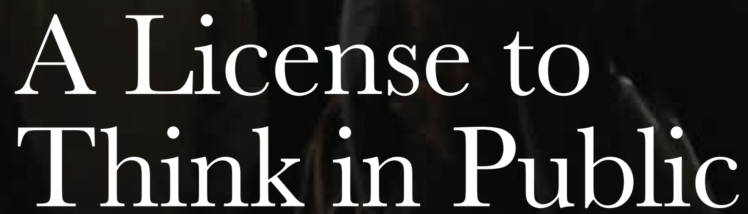

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GOING SOLAR

ENHANCING PROPERTY INCOME AND VALUE

Mike Bendewald,
Manager, Rocky Mountain Institute

GOING SOLAR—or installing a solar array on a rooftop, carport, or surrounding land of a property—is appealing to many real estate owners but has been difficult to justify from a fiduciary perspective. Even when there is an attractive return on a solar investment, real estate fund managers often cannot justify the upfront cost because of the impact it would have on financial metrics. However, a combination of record low solar prices and financial structures that can remove the upfront cost has made it possible to increase property incomes at minimal cost and risk. These market disruptions have created an opportunity for real estate fund managers to create stronger property fundamentals while also responding to environmental requests made by tenants and institutional investors.

What solar cost trends can we identify?

The Lawrence Berkeley National Laboratory has been tracking solar costs for several years and has documented an average 6–12 percent annual cost reduction. The most significant cost declines started in 2009, at first largely due to global solar panel prices and in more recent years due to other hardware and "soft" costs (e.g., permitting and installation). For solar arrays on non-residential buildings, prices fell 7–9 percent (depending on the system size) in the most recent year analyzed. Installed prices have a large degree of variation across projects, indicating an opaque market and ineffective buying processes.

How can solar improve fundamental property performance?

Energy cost savings alone can pay for the cost of solar projects on property rooftops, carports, and the surrounding land in as little as two years. Properties can leverage these attractive economics to improve property fundamentals through energy cost reduction, energy sales revenue, and rent-based revenue.

Energy Cost Reduction

A solar array located on the property site reduces the amount of electricity that the property owner needs to purchase from the grid. Depending on the amount of electricity needed and the size of the solar array, the property can completely eliminate its energy bill. Owners can either pass the cost savings along to tenants, capture the savings for themselves, or take a hybrid approach to capture some savings and pass the rest on, depending on the lease structure and owner/tenant preference. General Growth Properties directly owns 31 megawatts of solar capacity as of year-end 2016 (#9 among U.S. companies), cutting energy consumption across its portfolio by 215 million kilowatt-hours since 2011, amounting to tens of millions of dollars saved. Diligent deal teams will take energy cost savings due to solar into account for property valuation.

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Energy Sales Revenue

It's also possible to earn revenue through selling the energy from the solar array to tenants, effectively becoming the utility for the tenants. For example, the developer of Boulder Commons—two multi-tenant mixed retail and office buildings totaling 100,000 square feet in Boulder, Colorado—directly purchased a 600 kilowatt solar array for the buildings. The developer is renting the buildings using a modified gross lease that includes a market competitive rent plus an energy charge. This energy charge allows the developer to earn an attractive return on the solar investment, while also keeping tenant energy costs at a level that is standard in the market (i.e., no net increase to tenant expense). This energy charge also creates additional tenant-based income that can be passed to a future owner upon sale and accordingly directly factors into property valuation.

Rent-based Revenue

In some U.S. states it's possible to lease the roof or adjacent land to a third party for the right to locate a solar array on that area. Doing so can create between 10 to 40 cents per square foot of additional income while also increasing the property's value. Roof rental income is a straightforward transaction for most any deal team or bank appraiser to include in a property valuation because it offers assured cash flows and easily transfers to new owners. For example, most of Prologis' 108 megawatts of installed solar capacity at year-end 2016 (#3 among U.S. companies) spanning tens of millions of industrial rooftop square feet was completed using this structure, increasing the overall revenue and value of its industrial properties where the solar is located.

What are some of the other drivers of solar value?

Other value drivers that make solar attractive over and above the financial values discussed above include tenant and investor demand and avoiding obsolescence.

Tenant Demand

Most high-quality tenants have sustainability goals that may include solar. These goals are driven by a combination of concerns including: energy cost reduction, employee attraction and retention, customer satisfaction, and shareholder demands. In some cases, tenants are willing to pay a premium for sustainability, as evidenced by green-certified commercial real estate in multiple markets earning rent and sales premiums (as well as occupancy rate increases). While this is most likely driven by lower life-cycle costs it can also be driven by the additional values. These sustainability-minded tenants and occupants can be a driving force for going solar: one law firm tenant in a Brookfield Office Properties space in Washington, D.C., was responsible for launching a large-scale solar project across not one but three Brookfield-owned buildings. Owners willing to support tenants in their goals create opportunities for tenant retention, increased occupancy, and even higher rent rates.

Institutional Investor Demand

Evidence of low-carbon emissions funds outperforming the market continues to pique the interest of institutional investors. Especially prevalent among European investors, this interest has led to the creation of rating systems for performance assessment. The Global Real Estate Sustainability Benchmark (GRESB) collects data from 850 participating global property companies and funds, representing nearly $4 trillion in assets under management, and delivers a benchmark score to each. The GRESB score, which is reported to institutional investors, spans a wide variety of sustainability topics and includes the amount of solar in the real estate portfolio as well as solar growth trends. Another similar rating system is the Carbon Disclosure Project. Participating in these systems and continuous improvement through installing solar sends a compelling signal to institutional investors.

Risk of Obsolescence

New buildings today are more likely than not to be green, which often includes solar, creating a risk of obsolescence for buildings built to past standards. Building professionals are experiencing an increasing share of green projects: approximately 25 percent of U.S. building professionals expected to have a majority of green projects in 2015, but by 2018 that number rose to about 40 percent. According to a 2015 U.S. Green Building Council report, the market for green construction is expected to grow from $150.6 billion in 2015 to $224.4 billion in 2018. Net-zero energy construction, a subset of green construction, is also growing rapidly. There are currently over 400 net-zero and ultra-low energy buildings in the U.S., up from less than 100 in 2012. This growth will continue: Austin, Texas requires all new homes to be net-zero energy capable, and California will require all new residential and non-residential buildings to be net zero by 2020 and

2030, respectively. The first net-zero buildings were owner-occupied, often by companies and organizations looking to demonstrate sustainability excellence. Now, net-zero energy buildings are entering the mainstream commercial real estate development marketplace. Adding solar to existing properties is one way to catch up with these fast-moving trends.

Preparing for a solar investment

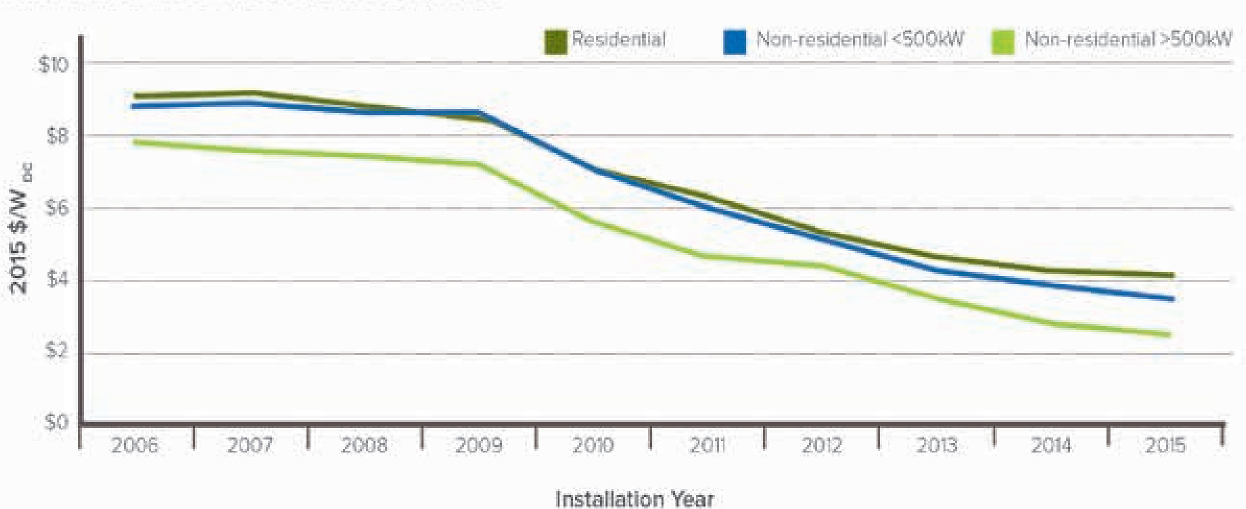
Despite the attractive improvements to property fundamentals and other value, many real estate owners do not consider going solar because of the upfront cost. It is challenging to earmark the millions of dollars required for solar due to internal competition for capital and the potentially negative impact on financial performance metrics (because the solar asset would count as a liability and it it is not yet common for bank/reporting appraisers to take the value of solar into account).

Fortunately there are several options for owners to consider to fund the solar project up to 100 percent. A direct purchase can be justified when owners are able to make their case to bank/reporting appraisers that solar boosts property value, effectively offsetting the upfront capital expenditure. A solar power purchase agreement is a good option for owners with long-term holds (greater than 10 years) and excellent credit.

A solar operating lease generally works well for owners with medium-term holds, especially if the project payback is expected to occur a few years before the property is expected to be sold. Commercial PACE (property assessed clean energy) financing works more broadly because the payments are affixed to the property tax and automatically transfer to the new owners.

Across the country, real estate owners have the opportunity to increase property incomes at minimal cost and risk. Real estate fund managers who are able to proactively identify these opportunities across their portfolios (incuding potential acquisitions) and use effective procurment processes are in a position to create substantial value that would not be created by other fund managers.

Lawrence Berkeley National Laboratory (2016), Tracking the Sun IX: The Installed Price of Residential and Non-Residential Photovoltaic Systems in the United States Link: https://emp.lbl.gov/publications/tracking-sun-ix-installed-price



RISING EXPECTATIONS FOR TRANSPARENCY IN COMMERCIAL REAL ESTATE

Chris Pyke, Ph.D.,
Chief Strategy Officer, ACLIMA INC

Opportunities and Challenges for Asset Owners and Managers

The average person spends 90% of their time indoors. The average building is designed to leave 20% of its occupants dissatisfied with indoor environmental conditions. Each of us easily experiences perhaps a half dozen buildings per week. Consequently, over the course of a normal work week, each of us has a nearly 100% chance of experiencing uncomfortable or even unhealthy conditions in even the best managed properties.[1] These statistics are not new. However, changes in customer expectations and technology are making them more visible, relevant, and actionable for asset managers.

Let's start with changes in expectations. Consumers increasingly believe that they can quickly find information about businesses and even specific properties. This is fed by consumer-facing tools such as Zillow, Yelp, TripAdvisor, or WalkScore. These instantly available applications have conditioned consumers to expect that they can type in an address and get a range of relevant information, from personal experiences to environmental performance metrics. In fact, for many consumers, it has reached the point where the absence of information is perceived as a risk factor and, say, 25% of poor reviews on TripAdvisor may be enough to send someone searching for a different hotel. Over time, the availability of these tools shapes expectations about the type of information that should be available about a business or a property.

The combination of changing expectations and readily accessible tools to share experiences challenges long-standing practices in the property industry. For example, buildings are typically designed and operated to provide thermal comfort for approximately 75% of occupants. The net result is that, on average, buildings are designed and operated to leave roughly a quarter of occupants less than satisfied with indoor temperature. This is considered

> "The combination of changing expectations and readily accessible tools to share experiences challenges long-standing practices in the property industry."

normal and acceptable in the property industry, but this fraction is larger than is considered normal in other industries (e.g., hospitality). Again, consider the TripAdvisor reviews. A property with 25% dissatisfaction might raise some eyebrows.

This discrepancy is not a problem when information about personal experiences or indoor environmental conditions is hard to collect and difficult to share. However, this is changing, fast. We all know that the Internet is incredibly efficient at sharing experiences. "Likes", microblogs, and reviews allow individuals to broadcast their opinions, and they make personal experience visible.

In parallel to advances in social factors, new technology offers new capabilities to measure and quantify the physical attributes of indoor environments that shape health and well-being. A new generation of sensors make it possible to "see" indoor environmental conditions like temperature, humidity, noise, light, and certain chemical pollutants. Consumers can purchase personal sensing devices and carry them wherever they go. Companies can deploy sensing networks across spaces, buildings, and even whole portfolios. Combined with cloud computing and advanced analytics, commercial sensing networks give asset managers the capability to understand the past, present, and future performance of portfolios, buildings, and spaces.

Taken together, these innovations are quickly changing how information about companies and their properties is generated and communicated. In this new world of "transparency", asset owners are moving from information gatekeepers to participants in a rich, sometimes even chaotic, information ecosystem. In these emerging ecosystems, information flows in many directions driven an increasingly diverse set of interests and motivations.

We can consider this emerging regime of transparency more deeply by taking air quality as an example. In the past, air quality has been measured by government agencies at carefully selected sites across a region. This information was used to measure compliance with environmental regulations, notably the Federal Clean Air Act. Given this focus, air quality data have been largely irrelevant for real estate asset owners. New technology is upending these conventions. Today, it is possible to array relatively low cost, high quality environmental sensors across a city – such as on kiosks, light posts, and other infrastructure – combined with sensors on a variety of mobile platforms – typically cars, trucks, buses, and other vehicles. These distributed outdoor sensing networks generate hyper-local information about air pollution, literally bringing quantitative measurements to the doorstep of individual properties.

The resulting fine-grained data show that local conditions can vary widely from regional averages. Research by Aclima, Inc. and its partners have shown local hotspots that are frequently more than 5-times regional averages. In other words, these new types of data show that some locations experience "Code Red" days much more frequently than others.

These new data illustrate the consequences of new technology that makes traditionally invisible performance dimensions visible. The variation has always been present in the environment; however, it has not been actionable or even relevant to asset owners. Today, new technology makes this variation visible and easy to communicate. This change should motivate asset owners to evaluate the consequences for property value and operation.

The implications of the data are not cut and dry. Variation can be positive or negative for any particular property. For example, high pollution levels near a busy intersection with idling truck traffic may suggest the need to actively manage properties to protect occupants for above average levels of outdoor pollution. Or, alternatively, a property in a relatively low pollution area may be able to increase its use of outdoor air to reduce energy consumption. Depending on the circumstances, the data may suggest new risks or opportunities.

[1] In case you're wondering about the math. Assuming that the likelihood of encountering satisfying conditions is statistically random, we have a 4 out of 5 chance of be satisfied when visiting any given code-compliant facility. Given these odds, our chance of not encountering a dissatisfying facility drops to <1% after visiting six different facilities.

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These patterns continue inside the building. Many asset owners conduct annual air quality testing. These are often perfunctory measurements intended to catch acute health risks, such as sick building syndrome. However, it is unlikely that a one-day assessment for a small number of locations within a large, dynamic building is going to capture the actual range of conditions across the asset between seasons and across operating conditions. New technology makes it possible to create distributed, continuous sensing networks that track conditions in real time. These systems can reveal opportunities, such as spaces capable of handling high occupant densities while maintaining comfort. Conversely, they can also detect spaces that seem adequate when empty, but fail to support cognitive performance when occupied.

Some asset managers may be concerned about the implications of learning more about building performance. This is understandable, as some information may compel action. However, changes in expectations and technology may force the issue. Building occupants increasingly expect to be able to share their experiences and, to some degree, even customize their local environments. It is not perceived as "normal" for a significant fraction of occupants to be dissatisfied, even if this is "normal" within the tradition of property management.

Simultaneously, asset owners are confronted with the proliferation of low cost, consumer-grade sensors. A quick search on Amazon reveals a myriad of personal air quality meters and portable sensors. In our experience, many of these tools may initially provide some information, but, over time, they rapidly fall out of calibration and may provide more noise than signal.

This situation may force the hand of some asset owners and managers. These flows of information cannot be readily controlled. Owners and managers increasingly need to monitor flows of third-party information about their asset and, in some cases, collect new information to contextualize occupant experiences and measurements. These data can help owners and managers avoid surprises and work proactively to avoid problems and create value. Monitoring flows of data and generating independent information can matter in a pinch. Sometimes it will reveal that occupant experiences or measurements are spurious. In other cases, the data will show the need for action. One way or the other, data is needed to level the playing field and provide the basis for discussion.

Stepping back, changing expectations and technology are a lot for property owners and managers to digest. The fundamental issue is that more people are learning about their assets in more ways. There are more ways to share experiences and measure performance that translate to health and utility benefits. Ultimately, asset owners and managers can no longer independently control the flow of information about a property. Every occupant and visitor has the potential to share experiences and, in some cases, create data. Short of closing down a building or imposing draconian security, this is not something that can be controlled at the source. It is more realistic to recognize that information about conditions around and inside buildings is accessible, quantifiable, and shareable.

In this emerging situation, the best strategy is to recognize the trend and take action to monitor flows of information

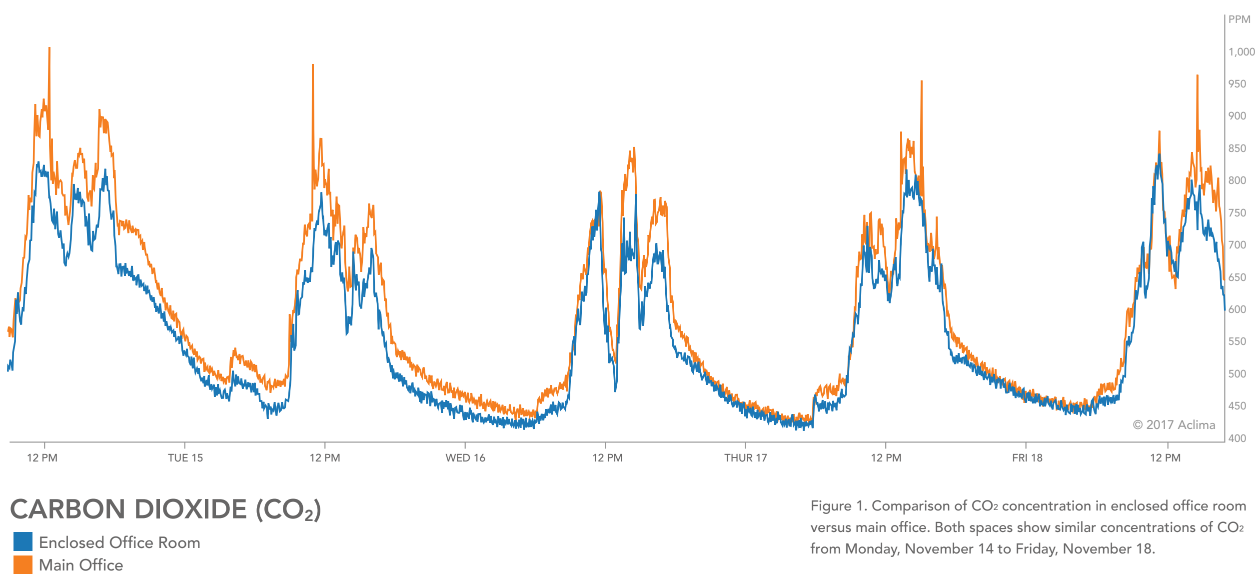

Figure 1. Comparison of CO_2 concentration in enclosed office room versus main office. Both spaces show similar concentrations of CO_2 from Monday, November 14 to Friday, November 18.

about properties and proactively collect information aboutindoor environmental conditions. This avoids surprises and, if needed, this allows for corrective action before complaints arise. Better yet, it provide an exceptional opportunity to communicate superior conditions and use data for competitive differentiation.

This is not a small change. This is a profound shift in the nature of transparency in the property industry. Customer expectations are rising and technology is enabling us to “see” and share more than ever before. After taking a deep breath, it’s time to use this new transparency to do what asset owners always do: manage risk and create opportunity.

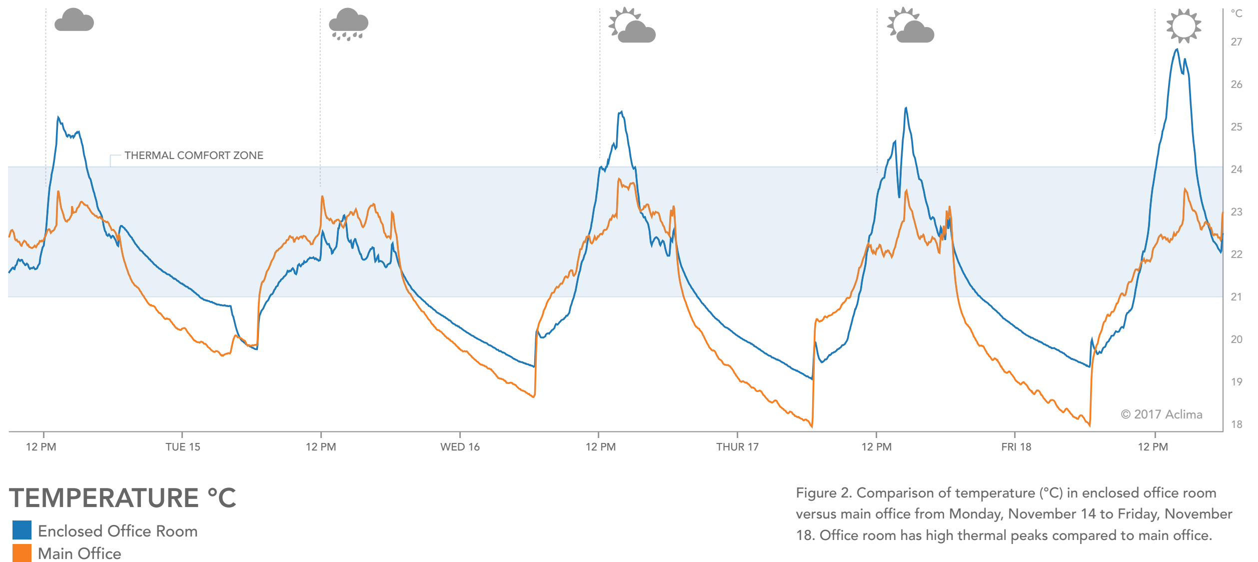

Figure 2. Comparison of temperature (°C) in enclosed office room versus main office from Monday, November 14 to Friday, November 18. Office room has high thermal peaks compared to main office.

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A TALE OF TWO SECTORS:

MULTIFAMILY AND

Value still exists in today's global real estate, but selectivity is critical

Scott D. Brown, *CFA,*
Global Head of Real Estate, Barings Real Estate Advisers

"It was the best of times,
it was the worst of times,
it was the age of wisdom,
it was the age of foolishness…"

While Dickens' words are timeless, they are particularly applicable to today's economic, investment and real estate markets as we move through this post-recessionary global economic expansion, which is long in duration but underwhelming in pace. The sluggish economic expansion, combined with continued geopolitical risk flare-ups, is understandably causing investors to waver between anticipating an economic recession and feeling cautiously optimistic that the cycle has further room to run.

Despite these uncertainties, the amount of capital available for real estate investments remains impressive in developed markets and capital cities globally. Which begs the question: where should investors look to put their money to work today?

At Barings, at any given time, we are executing in numerous strategies around the world and seeking the most attractive relative value opportunities as they emerge across regions and sectors. Based on our findings, we have identified two sectors that we believe have the potential to offer particularly attractive risk-adjusted returns in the coming years: multifamily housing (apartments) and self-storage.

MULTIFAMILY HOUSING

Over the past two decades, investments in multifamily housing have consistently delivered some of the best overall and risk-adjusted returns, particularly in the areas of development and redevelopment. Key drivers of this outperformance, which continue to resonate today, include:

1. Stable, durable cash flow streams
2. Historically lower value erosion in downturns
3. Greater diversification and liquidity characteristics
4. Increased access to debt with lower cost of capital

Looking ahead, there are a number of factors that suggest a continued potential for strong performance in the U.S. multifamily sector, particularly in apartments. Based on a 10-year projection, the U.S. population is slated to increase by 26 million, surpassing the pace of most other developed economies. This growth could translate to an annual increase in demand of more than 300,000 new units. Multifamily properties, with significantly lower operational and capital costs than other sectors, are also better positioned to enable investors to convert revenues to net operating income (NOI). At a time when NOI growth is expected to drive the majority of overall property appreciation, investors' ability to increase their bottom line is critical to value creation.

Based on the evolution of capital and space markets, the development and redevelopment of high-quality apartment properties have delivered strong risk-adjusted returns in both urban and suburban locations. Demographic trends, both millennial- and baby boomer-driven, indicate strong and continued demand for state-of-the-art products and high levels of amenities. These can include bars, fitness centers, indoor and outdoor communal space and access to nearby transit and restaurants, to name a few.

SELF-STORAGE

SELF-STORAGE

As baby boomers retire and look to downsize, another sector where demographic trends point toward continued growth in long-term demand is in self-storage. Characterized by fragmented ownership, low capital expenditures and monthly leases, this sector has, in the U.S. market, delivered higher returns with lower volatility than traditional real estate investments, according to NAREIT. Demand for self-storage, which is driven primarily by life events, has also shown to be less elastic and thus more resilient in times of market downturn than its peers.

While the current demographics of European self-storage do not quite match the U.S. market, urbanization is also driving positive growth across large and small European cities alike. Additionally, given estimates that the European self-storage sector is around one-fiftieth of the size of the U.S sector, and that average dwelling sizes are only half as large, the potential for income growth may be even stronger in this market.

Although supply data is thin, there are indications that the attractiveness of the self-storage sector is starting to become more recognized by the industry. Near-term supply pressures are beginning to build in some markets, and the record-high occupancies and rent growth of 2015 and 2016 appear to have crested, equating to slower growth being forecast in some markets. What does this mean for investors? With a fundamental backdrop on solid footing, the prospect for attractive returns looks bright. However, selectivity is critical and managers most closely monitor factors like local supply growth, rising property taxes, and labor costs in specific markets.

GREAT EXPECTATIONS?

Maybe, but future returns in global real estate will rely on greater selectivity

By taking a relative value approach to assess the attractiveness of a particular sector, managers can help investors identify the opportunities that offer the most compelling, risk-adjusted returns from a combined and comprehensive top-down and bottom up perspective. Executing on such a strategy requires a robust team with "boots on the ground" globally as well as a proven, repeatable investment process. Despite the current climate of consolidation-driven portfolio premiums and record-high pricing of individual assets, investors can still earn attractive returns in global real estate markets, but they just need to know where to look.

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It’s not how big it is, but what you do with it.

The long-lived nature of real estate, and real assets more broadly, massively exposes real estate investors to the emergence of new technologies, such as rideshare and homeshare platforms, and increased transparency through “big data.”

Dr. Nils Kok, *Chief Economist at GeoPhy (NY) and Associate Professor at Maastricht University (NL)*

For investors in buildings that stay around for decades, sometimes even centuries, it is tempting to dismiss technological innovations as irrelevant. But as the real estate sector is poised to become more data driven, this will 1) lead to (partial) automation of now-manual tasks, such as site selection and due diligence for acquisitions, valuations, and mortgage origination, 2) enhance efficiency and liquidity in the commercial real estate market, leading to an increased capital flow, and 3) affect traditional drivers of real estate demand, with significant consequences for the existing capital stock, including its pricing.

"Big data" has quickly emerged from obscurity into a buzzword, rising from non-existent in 2011 Google Trends numbers, to peak popularity in 2016. Indeed, peak popularity of "big data" was last year. In 2017, the world no longer cares so much about how big data is, but rather, what you can do with it. Because without application and analysis, data is like raw oil without the refinery.

For the commercial real estate sector, the emergence of "big data" is part of the broader rise of "proptech," another catch-all term that includes the many sides of the real estate market. As a short digression, it is worth looking at "proptech" in a bit more detail. It is easiest to decompose the hundreds, or perhaps thousands of tech firms in the real estate space by using a well-known framework for real estate market analysis: the four-quadrant model. As academic as that framework is, the workings of the real estate market can be boiled down to a combination of the construction market, the market for space (where landlords and tenants interact), and the market for assets (the capital market, where sellers, buyers, and providers of capital interact). As illustrated by the graph above, each part of the market has its own set of disruptive "tech" firms – I listed just a few names, but the list is virtually endless, and growing every day.

Asset/Capital Market	Space/Tenant Market
GeoPhy Opendoor.com RealtyShares Blockchain	VTS CompStak Reonomy AirBnB WeWork AppearHere
Construction Market	**Other**
OnTarget Honest Buildings Ravti BIM 3D printing	Ridesharing (Uber/Lyft) Self-driving cars (Tesla) Telehealth (Teledoctor) Etc.

In the construction market, some big trends include BIM modeling (increasingly commonplace), 3D printing (the first commercial building using 3D printing has been constructed, in China), and the Internet of Things (IoT) creating "smart" buildings (OVG's "Edge" building in Amsterdam and Oxford Properties' "RBC Waterpark Place" in Toronto are early adopters of IoT technology).

In the space market, there are many example of disruptive technologies. From the obvious, such as the offline-to-online retail shift, more advanced brokerage platforms aimed to obviate expensive and unneeded brokers, to rideshare platforms changing the value of location. And don't underestimate the impact that platforms such as WeWork and AirBnB may have – with sticky supply (it's hard to move buildings) small changes in demand create large fluctuations in value.

In the real estate capital market, there are multiple disruptive technologies that have direct relevance for fund managers, REITs, developers, lenders, and other players in the capital market. As a source of capital, crowdfunding and arbitrage platforms are emerging, albeit mostly focused on the single-family residential sector, where liquidity is typically higher and ticket size smaller (see, for example, Opendoor.com). Two other fields in the real estate capital market that are ripe for disruption include the role of traditional research and analytics, primarily focused on site and asset selection, and the archaic role of appraisers.

Big data for site selection and due diligence purposes

For real estate developers and investors, finding "the next Williamsburg" or "the next Soho" is often considered the holy grail. But, how to identify what areas (may) gentrify? At the macro level, site selection is often done using data on demographic trends, including population, employment, and income growth. But once a city has been selected for capital allocation, Census data is neither granular, nor frequent enough to be useful.

Enter big data. Because at the level of the city, there are a multitude of data layers that can be used for further differentiation, as detailed as an inch, as frequent as every second. Think about data on bars, restaurants, coffee shops, art galleries, (music) events, crime, the location and frequency of pictures uploaded onto social media, homesharing (e.g. listings on AirBnB), WiFi hotspots, public transport stops, rideshare pick-ups and drop-offs. And all other data layers that Richard Florida wrote about in his "Rise of the Creative Class."

These "modern" data layers, which can often be accessed through APIs, lead to unparalleled market intelligence that enables real estate investors, developers and lenders to make more informed, data-driven decision. As opposed to, or perhaps in addition to, "heard on the street" or gut feeling. But the trick is often to access and make sense of all these different layers of information, as most real estate firms are not set up to ingest many different sources of primary data, but are rather used to consuming data in aggregated format (think: data on rent levels, price developments, etc.).

To illustrate how new, granular sources of data can be used by the real estate sector, my firm, GeoPhy, developed a simple site selection tool, the "Grapevine Dashboard" (after all, we often hear about new, upcoming, cool areas through the proverbial grapevine). The Grapevine Dashboard pulls a vast real-time dataset

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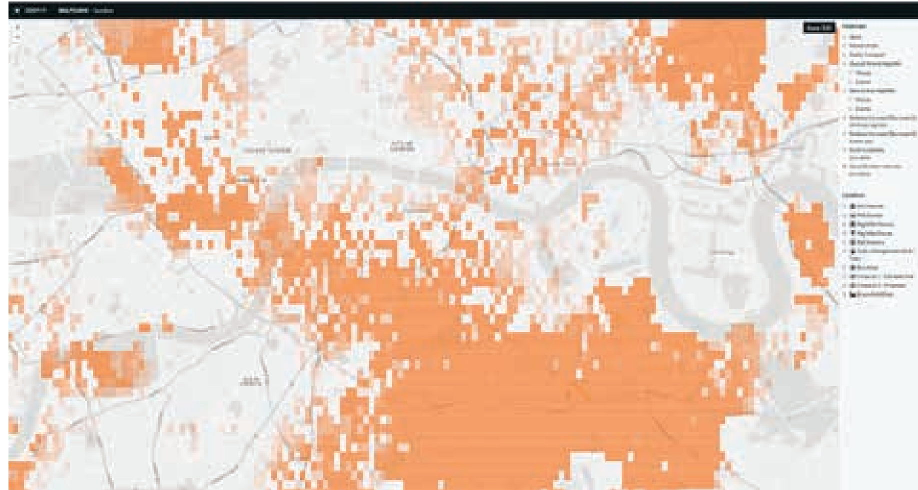
Information on relative rental levels in a city in conjunction with the relative increase/ decrease in local economic vibrancy provides a "gentrification indicator" that can be used for site selection.



of physical venues and one-off events in a city to provide a detailed view of arts, nightlife and other leisure activities. This includes the exact location of amenities like bars, cafes, art galleries, music concerts, food festivals and exhibition openings. By utilizing proprietary methods to calculate locational proximity and distribution of such venues or events, we can spatially sort and rank this data across entire cities.

The picture above shows, for London, which areas have the greatest number of new bars, cafes and restaurants (in this case, those which have opened during the past two years). However, this view can also be filtered to look at a more specific subset of the data, such as restaurants or coffee shops that are not part of the major chains. The data also allow us to look at less spatially fixed behaviour, such as events that might not take place in a traditional venue; which could be pop-up markets, outdoor cinemas or all-night warehouse raves. In doing so, we can access a view of the city that is rarely seen; and understand which neighbourhoods certain groups of people are likely to go to in order to spend their money and enjoy themselves.

We then combine the increase and decrease in an area's popularity with rental price data. Information on relative rental levels in a city in conjunction with the relative increase/decrease in local economic vibrancy provides a "gentrification indicator" that can be used for site selection. Low rents and strong increases in economic activity, that's what developers and investors should be looking for, which is exactly what the Grapvine Dashboard points out.

Of course, macroeconomic data may shift some of the institutional focus away from London. But the concept of Grapevine specifically, and the use of big data more generally, can equally be applied in every market for every property type. As the availability of data grows, investment decision making will increasingly be informed through objective analysis. And if it makes you feel better, you can always add a dash of gut feeling.

BIG DATA FOR REAL ESTATE VALUATIONS

Determining the value of commercial real estate remains elusively hard, with a workforce of 74,000 appraisers in the U.S. alone still manually assessing the value of assets sometimes worth billions of dollars. In addition to the significant increase in the availability of data that the real estate industry has witnessed, there is the advent of machine learning techniques. Such techniques are now widely used in medical research, as well as in applications such as search algorithms and recommendation engines. (Examples of machine learning applications vary widely, from fraud detection by PayPal to the personalized online ads that we have grown used to.) In the single-family housing market, there are some nascent products that use this combination of data abundance and machine-learning modeling, including, for example, House Canary's automated valuation model, and Zillow's much-discussed "Zestimate."

We apply "big data" in combination with sophisticated modeling techniques, to develop an automated, machine-based valuation model for the commercial real estate sector. We first focused on the multifamily sector, enabled by access to a dataset of some 54,000 U.S. multifamily assets. This dataset is enriched by a wide set of both standard demographic and economic measures and more modern, "hyperlocal" metrics, such as proximity to music events, bars and restaurants, green space, and local crime incidence.

Rather than traditional hedonic models, which are limited both statistically and by a researcher's predisposition towards "standard" explanatory variables, we then apply assisted machine learning models that rely on (stochastic) decision trees. These models can sift through millions of combinations of thousands of variables, training and testing the model on randomly selected parts of the datasets, leading to precise out-of-sample tests of predictive performance.

We find strong evidence on the superiority of automated valuation models (AVM) over traditional appraisals – the median absolute error of the automated model we develop is below 9%, which compares favourably against the accuracy of traditional appraisals, while the model can produce an instant value at every moment in time, at a very low cost. We also find evidence on the importance of using "hyperlocal" information on the location of an asset. While the use of economic and demographic data at the Census tract and ZIP code level are standard practice in real estate modeling, new information layers gleaned from a wide variety of sources, including social media data, police records, and amenities related to economic vibrancy, add significant value to pricing models.

The implications of a well-functioning AVM are significant. First, timely estimations of property values are critical for real estate investors and lenders to make informed underwriting decisions, where systematic errors or biases in valuations may have adverse effects on the provision of equity or debt. Second, investors, regulators, and others rely upon appraised values to assess returns on the USD11 trillion U.S. commercial real estate market, and automated property valuations can provide a more accurate reflection of both the real estate stock (i.e. the value of real estate on the balance sheet) and flow (i.e. real estate returns from changes in capital values). Third, automated valuation models can be used for stress testing under adverse economic scenarios, which post-crisis remains a much-needed tool for regulators, banks, rating agencies and investors. Fourth, the availability of an instant, accurate property value may spur financial innovation in the real estate sector, such as automated loan origination by banks, defined-contribution products for private real estate investments, and arbitrage products for commercial real estate (comparable to emerging products for the single-family sector).

THESE BUILDINGS HAVE BEEN HERE FOR DECADES! (AND SO HAVE I)

For investors in capital goods that stay around for decades, sometimes even centuries, it is tempting to dismiss the emergence of "proptech" as irrelevant for the industry. After all, you may not sleep in an AirBnB, but rather in the Fairmont. And WeWork is probably not for you or your company, preferring a long-term lease with extensive fit-out package and dito incentives. And 3D printing is just for the Chinese, not for high-quality US real estate development.

But the long-lived nature of real estate, and real assets more broadly, massively exposes real estate investors to societal shifts and long-term trends. As an analogy: we all understand that small changes in demographics can have large impacts on real estate pricing. When Amsterdam lost (just) 20% of its population in the late 1700s, house prices declined by 80%. Similarly, just 6% of total retail expenditures moved from bricks-and-mortar shops to online channels, leading to the current bloodbath in retail real estate (although the retail landlords want you to believe differently).

Rather than denying change, the real estate sector should embrace it. Sure – some roles will change, and disintermediation may happen. Some will resist, comparable to the utility industry resisting renewables, and the proponents of the internal combustion engine resisting electric cars. But think about it differently: online retail means opportunity for real estate. Ridesharing means parking spaces can be repurposed to more effective use, both on and off-street. Big data creates transparency that will allow for further institutionalization of real estate as an asset class, upping the share that institutional investors will allocate. Uncertainty abound, but that's where companies led by innovative, smart executives thrive.

Note: The content of this article partially draws upon the GeoPhy Blog and a forthcoming article in the Journal of Portfolio Management, "Big Data in Real Estate? From Manual Appraisal to Automated Valuation.". For more on Google Trends as a leading indicator, I highly recommend the book "Everybody Lies: Big Data, New Data, and What the Internet Can Tell Us Who We Really Are" by Seth Stephens-Davidowitz

THIS BUILDING IS BRAND NEW! IT'S JUST FINE!

Actually, it may not be...

Chris Geier, P. E.
VicePresident, Marx|Okubo Associates, Inc.

How is it possible that a newly constructed building would have issues with quality of construction? One might think at present, with experienced developers, designers, architects and contractors on board, that issues of construction quality would be increasingly rare. Unfortunately, we still see teams surprised by these kind of issues, which can unfortunately be a challenge to real estate transactions.

WHY? WHAT IS THE PROBLEM?

Quality of the construction workforce: The construction industry was severely impacted by the Great Recession. Many people left the industry during the downturn; not all of those people came back. We regularly see and read about construction firms not finding enough personnel to satisfy their current workloads. As one result, they are having to hire people that are either less experienced, or have no prior experience in construction. There is a lack of collective training and development of these newer personnel, which translates to an end product that can be inconsistent.

Supervision of 3rd party observers: While developer have 3rd party observers as part of the project team, we have seen cases where the 3rd party observations did not help the quality of the construction. Developers do not always follow through on getting appropriate oversight of the elements and/or systems observed. Having documentation summarizing findings, as well as pictures to support such findings becomes critical. In particular, where constructed elements will be covered by finish materials, such documentation is the only reliable way to verify quality of construction after the fact.

With respect to disabled accessibility, one issue is uneven enforcement. Compliance with the State or City Building Code is enforced through plan check and inspection on the local level, but accessibility required by overlapping federal standards are not a part of their review. The extent to which a local building inspector is familiar with these requirements varies greatly. Unfortunately, in too many instances, agencies have on the whole, neither the inclination nor funding to train appropriately to standards other than those required locally. As a result, enforcement of federal standards often happens by lawsuit after the fact – a situation no building owner desires.

The area of disabled accessibility design is not well-understood, and there are a variety of interpretations, gray areas, and reasonable accommodations that can be argued to be compliant – there can be more than one way to solve the problem. Accessibility standards can seem to be constantly in flux, requiring expert help to interpret and understand what the current professional opinion of the regulations require – what are the best practices. Overlapping federal, state and local requirements do not trump each other in whole, but must be complied with fully down to each area, element, or measurement. Meeting one standard does not excuse one from meeting other applicable standards; hence the

statement “It meets code!” is incomplete. What code does it meet? Does it meet the other standards that are applied? By contrast, checking the strength of a batch of concrete is straightforward, and scientific. Whether a particular accessibility design solution is compliant, or close enough, can come down to fractions of an inch and involves interpretation and an assessment of risk when a condition isn’t quite close enough.

Case Study

On a Class A multifamily project that had been constructed within the past 1-2 years, a Property Condition Assessment was performed. It was designed and constructed under the most recent building codes, developed by a competent developer, an experienced architect, and seasoned contractors. Yet issues of construction quality were found with the exterior wall and disabled accessibility.

Exterior Wall

Upon review of the site, questions about exterior weather barrier provided beneath the stucco/EIFS arose: What is the system, what components were provided, and was it installed properly? Limited information was provided, limited drawings were available, and the seller’s property management personnel did not have a technical background in these construction materials. Destructive testing was not initially performed; however, in one area at a garage door, tenant car strikes had damaged stucco and foam trim, showing a potential lack of weather barrier.

When approached with these questions, the development team provided copies of monthly reports that had been created by a third-party inspector during construction. While these included some photo documentation, photos were limited in number and taken from a distance, making it impossible to definitively determine the detailed makeup of the exterior wall assembly. Of the additional raw construction photos which were provided as follow-up, only 2 photos showed anything approaching a weather barrier.

Additional avenues of discovery were pursued, each with limited success. The contractor did not hire a third-party firm to observe the exterior construction. No record of involvement from the exterior wall system manufacturer was provided, and no documentation of meetings with the contractor or subcontractors was available.

The contract for the firm observing the exterior construction was reviewed, which indicated part of their scope was to perform a Preconstruction Document Review report, and be involved with exterior wall system submittals, RFIs, and plaster mockup. No evidence of these services being performed was provided by the firm.

No meaningful confidence in the quality of exterior wall construction could be developed without additional destructive testing and/or infrared analysis. In this particular building, this was a key concern to the potential purchaser.

Disabled Accessibility:

We performed a review of property from several angles, as different areas of the project are required to comply with the Americans with Disabilities Act (ADA), Federal Fair Housing Act (FHA) and Local Building Code.

In the dozens of units required to be accessible (not adaptable) by local building code, many issues were noted: primary entries not accessible, sliding glass doors not the required clear width, thermostats too high, restroom lavatories higher than allowable, water closets at non-compliant distances from the side wall, deep refrigerators that impede access through the kitchen, missing under-sink pipe insulation, etc. While each of these issues individually are minor, collectively they can have substantial impact. It is not uncommon to see costs associated with making corrections to address these types of items be on the order of $1,000-$5,000 per unit. A significant portion of this cost is the removal of existing construction and re-installation of finish materials, in addition to the actual work needed to address the issue.

Outcome

These issues eventually led to a lack of confidence from the buyer and the purchase could not go forward. The issues with the exterior wall construction quality suggested to some that there may be potentially other items not properly constructed that could not be identified in a Property Condition Assessment, without further destructive testing. The estimated cost to address the accessibility issues also impacted the buyer’s ultimate decision.

Recommendations:

Get a specialized disabled accessibility review well before the commencement of construction. Multiple rounds of review may be appropriate, with issues follow-up and correction with design and development team. Architects are trained as generalists, not all are focused on disabled accessibility in the way that the current legal and interpretive climate requires.

Contract with an experienced, qualified reviewer for specialized disabled accessibility review during construction, to catch issues before they are set in stone. Compare their findings with legal counsel in gray areas, to analyze risks and address issues of non-compliance before they become a factor in a disposition.

Setup document retention policies for Quality Control inspectors. Follow up on all services that were contracted. Make sure raw photos are available for future review. Document retention policies for the developer are important as well, involving accurate as-builts, warranties, and so forth.

Ownership can require more frequent oversight from qualified third-party reviewers. Once per month may not be appropriate to review wood frame construction, especially during framing and waterproofing phases of the work.

Issues of construction quality were found with the exterior wall and disabled accessibility.

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TAKING A CLOSER LOOK:

How to Gain Substantial Asset Value With Improved Operating Expense Reduction

Diane Vrkic, *CEO and Founder, Waypoint*

As the commercial real estate market continues to ebb and flow, many are left to speculate if we're nearing the end of the current market cycle. Owners and operators are looking to asset and property managers to uncover ways to protect each investment and drive net operating income (NOI). When rents soften in the market, it requires looking beyond revenue for other ways to generate value and often falls to operations to improve returns through expense reduction.

Of course, everyone knows that there is value to be found within the operations expense side of your income statement. But until now it has been too costly to manage expenses on a constant basis with the same scrutiny as revenue because the data needed to identify the highest potential points of savings is usually spread across disparate systems and locations. Monitoring it consistently takes energy away from higher-impact activities such as acquisitions, leasing, and capex.

The process for operating expense management today is cumbersome at best. Typically, asset and property managers have to extract the various data points from disparate and siloed systems and pull them into an Excel spreadsheet. With limited ability to normalize the information across assets and difficulty comparing amongst buildings and markets, managers don't have the financial insights or visibility needed to quickly identify value enhancing opportunities. Action only happens when glaring expense variances occur or when contracts are ending. In addition, this largely manual process is susceptible to human error. The results can lead to asset underperformance or – even worse – incorrectly viewing an asset as overperforming.

Without the proper tools and/or significant investment in manpower and expertise, it's hard to know if a building is performing at its optimized level and delivering the highest NOI possible. Quite simply, the return on investment for investigating operating expense reduction has been low.

In this article we want to highlight how you can generate significant return on investment with a streamlined process for optimizing performance - and show how even small improvements in operating efficiency can result in millions of dollars of additional value created.

THE VALUE OPPORTUNITY

In the US commercial real estate industry, we estimate that total operating expenses are in excess of $650 billion[1]. A 1% decrease across the entire CRE industry would mean an annual savings of $6.5 billion in operating expenditure and generate an increase in net asset value of almost $105 billion[2].

However, as mentioned above, operating expense reduction is often a lower priority given the complexity, limited tools and opportunity costs associated with the process. **The fact is, though, that very small percentage decreases in operating expenses can translate into millions in value creation.**

Take the following example:

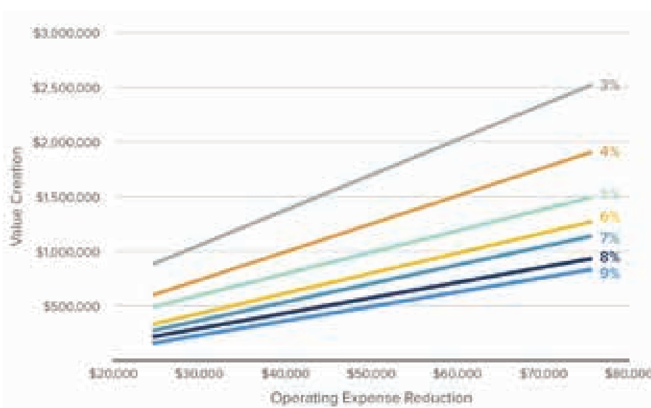
	Before Savings	After Savings
Revenue	$5,000,000	$5,000,000
Less: Expenses	($3,000,000)	($2,900,000)
NOI	$2,000,000	$2,100,000
Cap Rate	6.75%	6.75%
Valuation	**$29,629,630**	**$31,111,111**

Expense Savings	$100,000
Value Creation	+$1,481,482
Value Creation as multiple of savings	14.8x

Here we see that saving just $100k in expenses increases the property valuation by almost $1.5million. That is compelling and achievable. With the right approach and tools that consolidate all the relevant information to provide a portfolio-wide perspective, immediate opportunities can be highlighted without the historic headaches.

This is simple math – the impact of the operating expense reduction is magnified by the cap rate. At any single Cap Rate, the relationship between operating expense reduction and value creation is linear. Where it gets interesting is when you look at how this multiplier changes across different cap rates.

Value Creation Effect of OPEX Reductions at Various Cap Rates

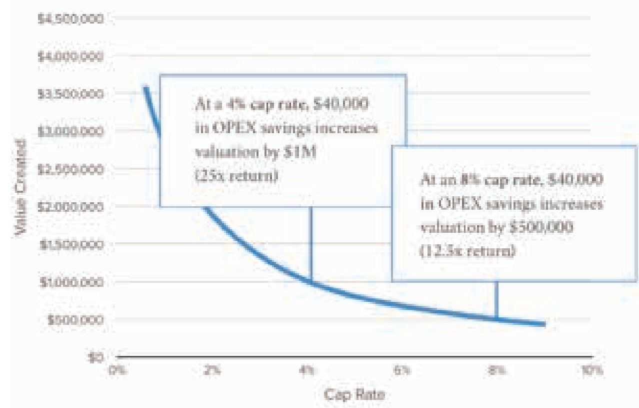


Assumes property with $500,000 in revenue

This shows that even at higher cap rate levels operating expense savings is valuable. As an example, for a property valued using a 9% cap rate, lowering expenses can generate an increase of $500k in value.

For a property valued at 5% cap rate, $1.5 million in additional value can be created.

Return on Savings Across Cap Rates



(Assumes property with $5million annual revenue and $4million in starting operating expenses and a 1% reduction in operating expense)

The above chart shows how the valuation changes for a property with $4million in operating expenses. A 1% decrease in operating expense generates $1million in asset value creation at a 4% cap rate. That is a 25x return on each dollar of savings.

This has a meaningful implication for all portfolios but is particularly significant for portfolios diversified across markets and/or asset classes. Class A assets with lower cap rates stand the most to gain, so transitioning properties down the cap rate ladder via operating expense improvement initiatives or capex projects aimed at operating expense reduction will increase the value of operating expense savings. This can have a powerful impact on your approach to operating expense management, empowering managers to identify the properties where their time is best spent scrutinizing expenses.

A key takeaway is the importance of scrutinizing operating expenses regularly as a defensive measure against a market downturn. When rates increase and property values fall, the cap rate multiplier can offset these losses through operating expense reduction. Operating expense reduction can also serve as a hedge against value destruction caused by a rate increase.

1 $650B calculated using the total SF in Office, Industrial, Retail & Multifamily asset classes per the Costar Group 2017 Mid-Year National Reports and NMHC tabulations of 2012 Rental Housing Finance Survey microdata, US Census Bureau updated 8/2015; multiplied by OPEX per square foot of $9.47 according to Waypoint dataset information

2 Applying weighted average cap rate of 6.23% from CBRE Cap Rate Survey First Half 2017

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LEVERAGING TECHNOLOGY TO OPTIMIZE PERFORMANCE AND IMPROVE RETURNS

As CRE professionals continue to embrace the technology solutions available in the market today, there are ways to reframe the approach to managing performance data and analytics to improve financial outcomes.

1. Automate data collection – More and more companies are adapting to this technology wave, but finding a technology solution that syncs with existing platforms and organizes, centralizes and normalizes the data is the best way to enable your teams to make smarter decisions.

2. Standardize your financial benchmarking – Being able to compare asset performance against other buildings and across markets helps provide the insights needed to improve performance. However with limited access to this data, it becomes difficult. Most market comparisons come by way of anecdotes. But, a single system of financial record that allows for information transparency across a portfolio is a start and can encourage healthy competition that leads to major improvements.

3. Encourage collaboration – A building's greatest asset is its team. An empowered and engaged team is more likely to proactively seek out ways to optimize the building's performance. It is important for teams to see how their efforts impact asset value and the overall health of the building. Additionally, collaboration and thought sharing across a portfolio can help all assets. There is now the potential to streamline procurement or consolidate contracts.

4. Streamline reporting processes – With the current reporting process, there is inherently a lag time between the closing of the books and receiving variance and budget reports. There is even more time invested between receiving the reports and analyzing for variances. Multiple phone calls and excel spreadsheets are the backbone of the current process between asset and property managers. In order to focus on what will impact operational efficiency, engage the accounting team in updating the process so they are responsible for highlighting the largest variances so when the property team receives the report, they can immediate look into those priorities.

5. Ask for transparency – Ensure the rollup report is available to everyone. This allows other teams to see how they are performing across the portfolio and could encourage a more proactive approach, but mostly it allows everyone to see how their work directly impacts NOI. Being able to view the data the way you want when you want.

Investing in a reporting tool that helps drive productivity gains for asset and property managers can quickly pay for itself by highlighting immediate opportunities. The Waypoint platform provides real-time reports with standardized data so that you can pinpoint the areas where you can get the most "bang for your buck." This allows you to instill effective operating expense management into every part of your business. If you are interested in learning more about how this can work for your portfolio, contact us @ waypointbuilding.com.

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LAST RODEO

Mary McCarthy,
Managing Director, Terra Search Partners

Denver Broncos quarterback Peyton Manning made headlines in the prelude to 2016's Super Bowl when he told New England Patriots head coach Bill Belichick, "Hey listen … This might be my last rodeo, so, it's been a pleasure." In the end, Manning's friendly prediction turned out to be true as the Broncos defeated the Carolina Panthers in the final game of the legendary quarterback's career.

Real estate executives don't typically face the stark career choices of long-tenured athletes, and their last rodeos rarely make headlines. But we recruiters often have age 55+ job seekers come to us and say, "I want to work 5 to 10 more years. I have 30 years' experience. I've seen a few cycles and now I am ready for one more challenge."

Unfortunately for those job seekers, recruiters are retained and paid by employers. We rarely hear from an employer, "I want to hire a senior person with five or 10 years of runway and 30 years' experience." Maybe this is a tad cynical, but clients more often think about the minimum level of experience absolutely necessary, the long future a new hire may have, and what a new hire will cost. Nevertheless, we recommend that clients consider Last Rodeo candidates. We may encourage a client to ask, "What is the time frame for a useful employee?" Perhaps five years is the useful tenure of the new hire.

Here are a few real-life examples that illustrate when a Last Rodeo candidate becomes a great solution.

- Growth Company – A young operating company on its second or third investment fund seeks to build the "institutional" team that its LPs require. With a larger volume of investments, this firm now needs defined asset management and acquisition functions, whereas before, everyone doing a bit of everything worked just fine. The Last Rodeo candidate may have worked at several firms in the past, and he or she brings knowledge about processes and institutional investor expectations, as well as expertise that will allow the firm to build this capability quickly and efficiently.

- Big Company, Untapped Resources – A major real estate services or global investment firm is sitting on a treasure trove of data. The data are more or less afterburner material, a result of established services or investment, but not the focus of the firm's efforts. A Last Rodeo professional, sitting on the outside of the firm's day-to-day operations, may recognize an opportunity to create a new service for clients or create a new investment strategy. In these cases, the Last Rodeo candidate's 30 years' experience and perspective bring real value.

- Gravitas – An investment firm is transitioning from a capital base of high-net-worth investors to one that includes institutions. They seek a capital raiser with strong credibility in the institutional world. A Last Rodeo hire can be exactly the right hire in that situation. Having satisfied their youthful ambitions, Last Rodeo folks can be happy and fulfilled sharing their knowledge and "lending" their bios. And, as one such recruit told me, "I am not trying to take over the firm."

- Plug-and-Play – While some see this as a pejorative term (as I did when a recruiter used it to describe me), the senior role player who joins a firm and immediately begins adding value can be an elegant solution. Virtually no ramp-up time is required. The Last Rodeo recruit knows the role and the marketplace's expectations. This person also has standing in his or her sphere. As one successful Last Rodeo professional told me, "I knew the players and gave them instant credibility."

- Team Player/No Big Ego – Often, Last Rodeo candidates can fit easily into firm cultures because they have proven themselves in the past and are secure in their abilities. It is valuable to have a really knowledgeable person in the dugout.

- Compensation Challenges – Some clients seek someone with a deep level of experience, but are not willing or able to pay the big bucks or offer the long-term compensation package that a rising 45-55 year old might require (especially one who is currently employed). These clients can often solve that riddle with a 55+ year-old candidate who is more driven by the challenge than the money because he or she has already earned and saved, or because this candidate knows he or she can't command the big bucks. The Last Rodeo candidate also is aware that this new employer's compensation scheme is established and non-negotiable; he or she may be willing to trust that once value is proven, rewards will follow.

In working with companies and talking to successful candidates, we've learned some things that may be helpful to Last Rodeo job seekers.

- People You Know – Chances are that the people who hire you – in whatever form that takes – already know you, or are one degree of separation from someone who does. This means you should remember to do more than "keep your head down and do the work" as you develop your career over the years. Industry associations – e.g., NAREIM, ULI, PREA – are obvious places to play in traffic. The older you are, the more important your personal network is if you want that "last challenge."

- Adjust Your Expectations – There are fewer seats at the top. This is just the math in a relatively slow-growing US economy.

- Do Not Tilt at Windmills – Companies will seek "more runway" candidates and have future leadership expectations for some new hires. Go after these opportunities, but do not tilt long.

- Get Creative – You may need to create your own job. That means thinking strategically about pain points in the business and where you may have a solution.

- Solution-Orient Your Pitch – If presented with a position that seems perfect, you might take a "here's my solution" approach to distinguish your candidacy from that of others. Tread the fine line between humility and confidence, keeping your ego in check. Alternatively, you may find that proposing a solution later in the recruiting process may clinch the deal.

- Embrace Something New – One successful Last Rodeo recruit wrote that a "new chapter" opportunity was "exhilarating." Another said, "I got a chance to do things that I hadn't been able to do because I was subordinate to a boss who wasn't an innovator," adding that she got to put into practice "how I wanted to do things."

- Join a Board – Find a board where your insight is valued. Consult and advise at a macro level. This can be a valuable two-way street.

- Go Rogue – Pursue a portfolio of activities, i.e., some as consultant, some as volunteer. See what happens. As one woman in her last rodeo at age 68 said, "You just have to re-invent yourself."

Our message to employers is: Think Broadly. The Last Rodeo candidate may provide benefits that you might not have imagined. Our message to candidates is: Think Creatively. You may be the solution to someone's problem and not even realize it.

Getting back to Peyton Manning: he was the perfect Last Rodeo hire by the Denver Broncos. The team's general manager realized the team didn't need to take a chance on a young quarterback who might one day be good enough to throw four or five touchdowns to win every game. Instead, the Broncos were so strong in other areas of the game that they simply needed a veteran Plug-and-Play quarterback to manage games and avoid big mistakes. Manning was able to do that, and a Super Bowl ring followed. The right Last Rodeo hire can do the same thing for real estate firms: keep things steady and allow others stars on the team to shine.

About the author: Mary McCarthy is a managing director with Terra Search Partners. Executive recruiting is her encore career and follows a long career in real estate capital markets, including her last rodeo at Hines where she worked for nine years.
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FINDING FUNDING CERTAINTY IN

UNPREDICTABLE TIMES

CTLs remain a reliable financing alternative.

It's human nature to be skeptical about things you don't understand. For many, the concept of something like a credit tenant lease (CTL) harkens visions of an overly complex financing structure that is more trouble than it's worth.

The reality is actually quite different though.

William Cavagnaro, *President, JLL Securities, LLC*

IN THE MIDST OF MONUMENTAL CHANGES like impending tax reform and clarity around new lease accounting standards from the U.S. Financial Accounting Standards Board and the International Accounting Standards Boards, many professional real estate investors are flocking to time-tested safeguards to mitigate this risk. What many are finding is that CTL financing is a reliable and viable solution.

THE TRUTH ABOUT CTLs

Forget what you think you know about a CTL. It's really just another type of attractive financing. And under the right circumstances, it has some real horsepower to offer borrowers.

Simply put, a CTL is a type of mortgage financing that is structured as non-recourse to the borrower. And here's where it gets compelling – CTLs are delivered as a high-leverage debt product with a long-term fixed rate. While they typically apply to single properties with investment-grade tenants entering into long-term leases (think 15-20+ years), it's possible to create a structure where companies without a public investment grade credit rating can use one. What's more, in an interest rate environment that many are anticipating will likely go higher in the near future, CTLs can provide a stable source of long-term capital to lock in today's low rates.

The beauty of a CTL comes at the end of the loan. As the borrower pays off the financing, it never relinquishes ownership of the asset; therefore retaining ownership of the property. Given its ability to potentially fund up to 100 percent of an asset's value, a CTL is highly effective for acquisition financing as well as "cash-out" refinancing. In either case, given the ability to provide a source of high leverage with zero equity contribution, the CTL can both provide a highly effective means of increasing assets under management as well as a reliable source of long-term capital to re-deploy into other investment opportunities. If structured properly, it's a safe source of long-term financing.

While CTLs can be used on existing leases, financing economics can often be optimized if they are structured in tandem with lease formation under terms that are beneficial for CTL treatment. CTL economics are driven by tenant credit and lease quality. Done correctly, CTL financing enables borrowers to realize economics that are pegged to the corporate financial strength of the tenant, rather than their own cost of capital.

CTL

For many, CTLs are uncharted territory. But, they do offer a smart way to solve debt challenges and remain financially solvent in both strong and uncertain markets.

MARKET TRENDS

In a search to continually drive shareholder value, corporations are looking for ways to optimize their capital stack and monetize capital locked into non-revenue producing property, plant and equipment-related assets. CTLs enable corporations to unlock this capital through a long-term fixed-rate real estate loan at a cost of capital that is akin to their corporate borrowing rate.

CTLs have become particularly popular with third-party investors seeking to retain asset ownership while paying off existing financing and recapturing owner's equity. Today, we're also seeing corporate and third-party owners using them as a source of high leverage construction-to-permanent financing for all asset types.

IT'S ALL ABOUT THE ANALYTICS

Take as an example, one private developer who was looking to procure construction-to-permanent financing for a 735,000-square foot headquarters facility to be built for Zurich in suburban Chicago. The borrower wanted a long-term source of fixed rate financing. Zurich, the tenant, wanted a state-of-the-art facility with low occupancy costs.

Sounds tricky, right? With no obvious solution in sight, the notion of a CTL came up. There was one problem though – Zurich wanted its North American entity, Zurich American Insurance Company, to be the lessee and it does not carry a public rating. Because CTLs are heavily dependent on credit, many people think the conversation has to end there. Not so.

After an intensive credit analysis based on the statutory financials Zurich posted, the answer became more apparent. From the analysis came a lease that maintained CTL eligibility for the developer, enabling it to achieve a low financing cost which, in turn, drove down Zurich's overall occupancy cost.

The key is getting to the credit. You may have to go through several layers of corporate entities, but it can be done. You just need access to a provider of sophisticated real estate modeling and credit analysis capabilities. When you look at the Zurich example, the parent company is not on the hook. It was structured and funded as a $334 million construction-to-permanent financing at a relatively low fixed-rate for a 26-year term.

That's just one example. Every deal is completely different. By their nature, CTLs offer the ability to customize a transaction structure for any given deal.

Hartz Mountain Industries is a large, privately held real estate owner and developer that was looking to refinance the primary maintenance facility for the New Jersey Transit Corporation. The property was part of an industrial facility built in 1970 with three tenants, each holding an interest in the facility governed by a condominium regime. Conventional lending sources weren't bringing in the loan-to-value Hartz was hoping for.

Digging deeper revealed an alternate, yet slightly unconventional path: restructure the condominium documents. Once that was done, it allowed for a full analysis of NJ Transit's credit as a tenant. Using a CTL enabled allowed Hartz to make use of the financial benefits of a highly credit-worthy municipal tenant and monetize the complex NJ Transit lease.

Their CTL received strong interest from a number of global capital sources because of the strong credit rating, the modified condominium structure and the critical nature of the facility. That structure provided $48 million in proceeds at a low interest rate, which let Hartz finance tax-free nearly 96 percent of the market value of the real estate and re-deploy the capital elsewhere.

DO YOUR HOMEWORK

With an estimated $540 billion of capital sitting on the sidelines waiting to invest, get ready for an uptick in the number of companies asking questions about CTLs. On the investor side, there's a strong appetite for this type of paper – and for good reason.

It's relatively safe. CTLs provide professional investors a predictable long-term cash flow stream that provides yields slightly higher than corresponding corporate bonds. Investment managers are grabbing a $150-200 million piece of these deals as the stable fixed returns provide a means of asset-liability matching.

For many, CTLs are uncharted territory. But, they do offer a smart way to solve debt challenges and remain financially solvent in both strong and uncertain markets.

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Lessons Learned

CENTRALIZING ASSET MANAGEMENT TO DRIVE EFFICIENCY AND PERFORMANCE

Jason Kern,
Chief Executive Officer of Americas, LaSalle Investment Management

Active asset management is a critical differentiator of success in the investment management business, especially when it comes to managing commercial real estate. In particular, as we sit here in the latter half of a historically long bull run, investment performance will increasingly be driven by skillfully managing assets to drive NOI growth, as opposed to relying on yield compression.

Strong investment performance not only delivers on the promise we, as trusted advisors, make to our investor clients, but it enables us to continue to raise new capital, which is the lifeblood of a growing and prosperous investment management business. In order to excel in a highly-competitive market, successful asset managers find themselves continuously having to adapt to changing market dynamics by adopting new technologies and improving upon processes that will drive efficiency. As our industry has matured over the past three decades, it has also become increasingly evident that investors today do not want to pay for inefficiency in actively managed portfolios.

While change can be distracting, particularly when managing a diversified and ever-changing multibillion dollar portfolio, the willingness to embrace change can reap significant rewards, both for the client and the manager.

There are times in the evolution of any business when its leaders must recognize when it is necessary to leave the comfort zone of the status quo and make dramatic, sometimes painful, changes that have the potential to plunge the business temporarily into a "distraction" phase before emerging on the other end as a more dynamic and resilient enterprise.

Since joining LaSalle Investment Management in 2013, a main focus of mine has been to find ways to further enhance the firm's Americas operations. After a period of orientation with the firm, I realized there was an opportunity to bring the U.S. Asset Management function, to an even higher standard of operational functionality, in order to prepare us for an anticipated surge in growth.

LaSalle's U.S. Asset Management structure, up until that time, was organized as individual, fund-specific or separate account-specific teams reporting up to each vehicle's Portfolio Manager. The groups were built organically and, over time, became siloed. While the exceptional talent that was in place was able to generate healthy returns, the structure felt fractured and inefficient, with personnel and resource redundancy occurring across property type and geography. This fragmentation impacted our technology adoption as well. When a new software tool would be developed in the market and presented to the firm for consideration, there was no central point person to assess the new tool's utility for our business and weigh in on whether or not to test and adopt the tool into our workflows.

I felt that the incumbent structure ran the risk of constraining the sharing of best practices and hampering career development. What I envisioned instead was a newly centralized Asset Management function where its members would be aligned by property type specialization and would service a range of diverse investment vehicles across LaSalle, in essence morphing their interaction with Portfolio Managers from a reporting line to a client service relationship. This centralized structure was used successfully by others in the market, but I knew that fact alone would not make the change an easy sell with our team.

The first step in fomenting a revolution in our Asset Management business was to commission a systematic examination, led by an outside consultant, of our org structure and efficiency metrics relative to the broader market. This study revealed that the business exhibited clear inefficiencies that needed to be addressed, especially as the business was beginning a considerable ramp-up in new capital raising and asset acquisitions that would materially expand our U.S. portfolio.

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As we worked through the evolution of the business, the opportunities to improve our investment performance, in addition to our efficiency and operational excellence, became more and more apparent and we are truly excited to see what future improvements can be made.

Now armed with the empirical data I needed to convince even the most skeptical amongst my leadership team that we must adapt in order to flourish, we set out to find a leader and devoted change agent to spearhead an organizational transformation that would impact virtually every one of our 200+ employees in the Americas business.

After an extensive search, LaSalle had the good fortune of hiring Kristy Heuberger from GE Capital as its Head of U.S. Asset Management in mid-2015. Kristy brought with her more than 20 years of experience in real estate across virtually all functional disciplines. The lofty goal that Kristy and I set for ourselves was to maximize utilization of our existing talent, improve productivity, and create enhanced career opportunities, while simultaneously driving improved investment performance. This would be a tectonic shift for the organization and we made it a priority to solicit feedback from a broad range of colleagues throughout the process in order to ensure buy-in.

So what does the Asset Management function look like today?

Today's structure operates as a Center of Excellence and aligns asset managers by property sector under four Sector Leaders. These individuals were all promoted from our existing ranks, and are viewed internally as leading experts in the unique aspects of managing office buildings, retail centers, rental apartment buildings, and logistics facilities. These property type experts team closely with their corresponding property type specialists in Acquisitions and Research & Strategy. Asset managers further focus on a particular geography for even greater expertise and efficiency.

During our transition, we carefully reviewed our portfolio, met with each team member, outlined an array of new processes, and re-assigned asset responsibilities across the team. Our overarching goals in determining assignments and planning the roll-out were four-fold:

1) Align by property type and region
2) Match expertise in assignments
3) Limit the number of assignment changes, and
4) Provide growth opportunities for the team members

Overall, this was a challenging process, but we feel that a good mix was achieved. While changing the manager assigned to a given asset can certainly be temporarily disrupting, we have also found that a new set of eyes on an asset can often bring new energy and perspective as well. We also had a clearly laid out asset transition process to provide smooth hand-offs.

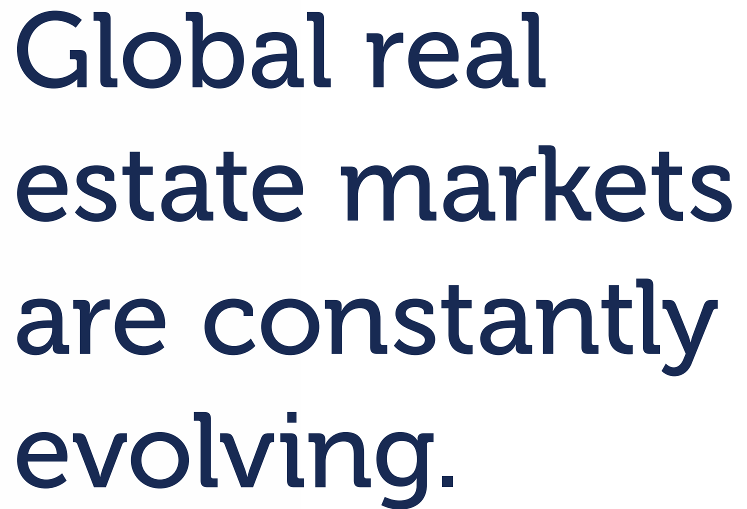
The centralized pool structure has allowed us to much more efficiently absorb new acquisitions as our AUM has grown and add new talent to the team when the expanding U.S. portfolio necessitated it. In fact, the AUM this group oversees has risen 30% over the past two years, with less than 10% increase in departmental headcount. The dedicated teams by property type are now thriving and motivated.

We have worked very hard over the past 18 months in order to continually refine operating rhythms, use of technology, and the organization structure to become a thriving Center of Excellence, touting four key tenets: Expertise, Best Practice Sharing, Effective Processes/Tools and Scalability.

When I asked Kristy about her thoughts about how far we had come, she was quick to caution that "We may have accomplished a lot so far, but we are still on the journey and we will continue to increase our expertise, and enhance our processes where it makes sense."

The original objective, in instituting a transformation of the U.S. Asset Management structure, was never to disrupt what was working; it was to increase productivity and efficiency and position us for growth. It was an important undertaking for me, personally and professionally. As we worked through the evolution of the business, the opportunities to improve our investment performance, in addition to our efficiency and operational excellence, became more and more apparent and we are truly excited to see what future improvements can be made.

Having completed this transition with minimal staff turnover is a testament to the strong culture of collaboration and increasing comfort with change at LaSalle as a whole. In fact, this transition has provided many Asset Management professionals with improved career paths and opportunities to expand their skillsets, something that is extremely rewarding to witness. Kristy is correct – change is a journey, as is leadership. It is, and continues to be, a fun ride.



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CMBS Passes Its 2017 Midterms

Paul Fiorilla, *Director of Research, Yardi Matrix*

Starting the year with a new regulatory environment, worries about peaking commercial real estate values and cooling fundamentals, 2017 was bound to be a test for the CMBS market. Although the year got off to a shaky start, by summertime the market earned more than passing grades.

U.S. volume through early August was $49.3 billion, up 34 percent year-over-year, according to Commercial Mortgage Alert, while metrics such as loan quality and bond prices were favorable. Still, the market must deal with regulatory changes, a shrinking base of investors and originators and concerns about the state of real estate fundamentals, challenges that won't be quickly be resolved.

"Despite the exit of smaller loan contributors, greater alternative lending competition, and newly rolled out regulations, the CMBS space has more than held its own in 2017. The CMBS market has adapted exceedingly well to the new regulatory requirements at this point," noted Tom Fink, Senior Vice President at New York-based analytics firm Trepp. "Overall, the market has produced deal structures under risk retention that pass investor and regulatory scrutiny and the pricing levels for these deals have been favorable and competitive."

RISK RETENTION? NO WORRIES

The big question headed into the year was how the market would react to risk retention, part of the Dodd-Frank banking industry reforms that went into effect in December 2016. The regulation requires sponsors of securitizations to hold 5 percent of securities they issue. Although there were concerns in the lead-up to implementation the market would be fundamentally damaged, risk-retention has largely been a non-issue.

Fears that higher compliance costs would make CMBS not competitive on loan pricing, or that there would be a shortage of investors for the junior classes of CMBS, have either proven to be not debilitating or have not materialized. In fact, there are a healthy number of investors buying junior CMBS, while profit margins have soared. Increased compliance costs have been more than offset by higher prices fetched by the bonds, as investors show they are willing to pay up for deals in which sponsors “eat their own cooking.” For example, between the start of the year and August spreads of senior triple-A rated CMBS fell roughly 15 basis points to about 90 bps over swap spreads, while BBB spreads dropped about 140 basis points to roughly 330 basis points over swaps.

Three basic options have emerged for CMBS issuers to comply with the risk-retention regulations. One, called vertical, is for the loan contributors to maintain a 5 percent portion of each class. A second option, horizontal, involves selling the bottom 5 percent of the securities to a qualified investor known as a B-piece buyer (which is the closest to the way the industry worked in the past). The third option called “L-shaped,” is a combination of the vertical and horizontal structures.

Issuers are sampling the structures, with equal use of all three in mixed pools. Through early August, nine conduit deals totaling $7.8 billion employed the vertical structure, eight deals totaling $7.4 billion employed the horizontal structure and 10 deals totaling $9.7 billion have employed the L-shaped structure. Horizontal also led the single-borrower market, with 17 deals totaling $8.5 billion, while 14 deals totaling $8.1 billion employed the vertical structure.

That’s not to say risk retention has no aftereffects. One consequence is that it favors larger banks that have the resources to hold securities on balance sheet. Those banks are reluctant to team up with originators that don’t have the same financial wherewithal, which has prompted at least 10 specialty lenders that contributed collateral to CMBS pools in recent years to drop out of the market. Some 26 lenders contributed to CMBS pools in 1H17, down from 40 that contributed to pools in 2016, per CMA.

LOAN QUALITY IMPROVED

Although there is some debate, loan quality seems to have improved in 2017. CMBS quality metrics, as measured by issuers, are better this year. The average issuer loan-to-value (LTV) ratio of pooled conduit deals through August 4 was 57.7 percent, down from 60.0 percent in 2016, 64.4 percent in 2015 and 65.5 percent in 2014, per CMA. Debt-service coverage (DSC) levels have averaged 2.07 in 2017, up from 2.0 in 2016, 1.8 in 2015 and 1.7 in 2014 (CMA).

Yet at the same time, CMBS lenders are also increasing their use of interest-only (IO) periods. Rating agency KBRA’s “IO Index” tracks the weighted average number of months of IO periods in CMBS pools. For conduit-loan pools, the average has risen to just over 50 percent in 2017. That means, essentially, that half the collateral in CMBS pools is subject to interest-only periods, up from less than 30 percent in 2013 and 40 percent in 2015.

Tightening spreads are a sign that investors are buying the high-quality argument. “Investors are willing to pay up for lower leverage,” said one CMBS portfolio manager. “That’s what the market wants.”

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FEWER INVESTORS

One reason that CMBS issuers must be more responsive to the demands of investors is that the number of buyers of the triple-A rated classes has declined in recent years. There are several theories as to why. The most common is the reduction in liquidity brought about by the implementation of Basel regulations and the Volker rule that constrains proprietary trading and makes it more expensive for banks to hold bonds. Banks can buy CMBS to support the market, as opposed to making profits, but there are fewer willing to serve that function, and the resulting loss of liquidity has led to the exit of some investors.

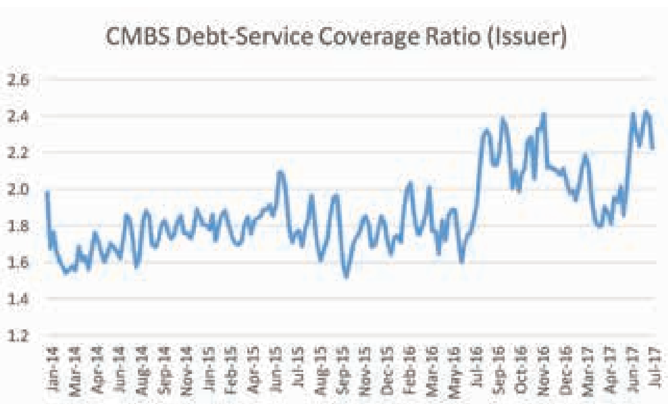
Industry trade groups are lobbying to reform or repeal the Volker Rule, and the Office of the Comptroller of the Currency asked for comments on the rules during the summer, so relief for banks could be coming. Yet it's hard to say when the relief will come or even how quickly banks will go back to the old ways of doing business, as trading is a risky business.

Another reason the buyer base is smaller is that fast-money investors such as hedge funds have virtually disappeared, leaving the triple-A investor base concentrated in cash or low-leverage buyers. Hedge funds are shrinking as investors redeem capital owing to poor performance, and other fast-money players dropped out as banks stopped financing the purchase of bonds in the wake of the financial crisis. So buyers of senior bonds tend to be institutions that want less risk and are not shy about expressing those needs to issuers.

COMPETITIVE LANDSCAPE CHANGING

CMBS loans originated to withstand more stress is largely a virtue, but there are consequences. Some worry that the market's focus on better quality product may reduce availability of debt for marginal assets. Throughout its history, CMBS has been the lender of choice for properties in secondary and tertiary markets, and for B- and C-quality assets. CMBS remains most competitive by providing more proceeds and longer terms than competitors. Commercial banks typically don't push terms longer than seven years, giving CMBS an advantage for 10-year loans.

Life companies dominate the market for low-leverage loans on high-quality properties, because they can offer lower loan spreads and borrowers prefer the more personalized servicing that insurers provide compared to CMBS. "A life company will always take down a loan if they want it, that hasn't changed," said one mortgage broker.



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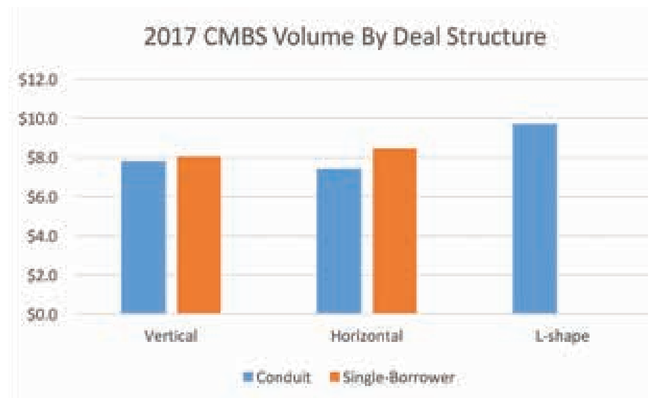


Source: Commercial Mortgage Alert

FUNDAMENTAL CONCERNS

There is growing concern that the commercial real estate market has peaked and bond buyers don't want exposure to high-leverage assets. Commercial property prices are at or near all-time highs and acquisition yields are at all-time lows. Concerns about buying at the peak have contributed to a 25 percent drop in property sales in the first half of 2017, according to Real Capital Analytics. Even though few believe that the market has entered bubble territory and see a 2008-like crash, market players still have fresh memories about buying at the peak of the 2007 cycle and at the very least want to exercise caution.

What's more, there are heightened fears about the long-term prospects of certain sectors such as retail and hotel, leading investors to exercise heightened due diligence on any collateral in those asset classes.

A less dramatic fear is that the economic expansion has run its course, and rent growth is decelerating in most segments in the face of rising construction and/or slowing occupier demand. For example, U.S. multifamily rent growth has slowed to 2.4 percent year-over-year through August, after being up as much as 5.7 percent in 2016, according to Yardi Matrix.

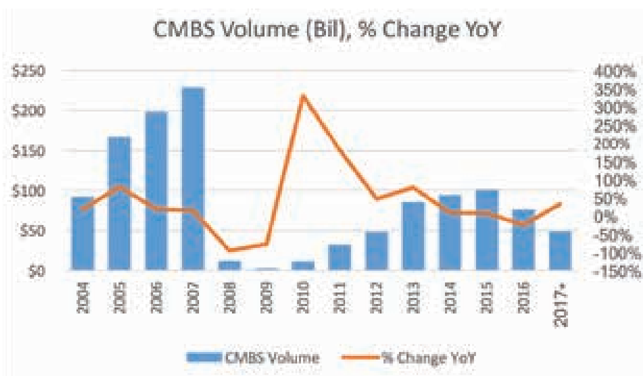
The upshot is that CMBS programs must be careful with the mix of loans, as investors are likely to avoid deals in which the collateral is heavily weighted on more risky property types such as retail and hotels. Some marginal loans will shift from CMBS executions to local banks or private equity funds.

WALKING A FINE LINE

Given a business model in which pricing and liquidity can change daily, CMBS is always dependent on market forces to a larger degree than competing lenders. The market is navigating a fine line between originating loans that have prices and terms that will appeal to borrowers and can be sold to an increasingly choosy investor base. At the same time, CMBS is trying to comply with new rules while lobbying to relax those rules, and holding its breath that the recovery in the economy and real estate fundamentals doesn't run out of steam.

Although the market has performed well in 2017, it's easy to see red flags that could impact coming years. One is that demand for debt might slow starting in 2018 as there are no more 2007-vintage loans to refinance and transaction activity wanes. Another is that borrowers will increasingly choose other lenders if the servicing issues that have plagued the market don't get resolved.

The future might encompass a lower-volume market bifurcated between deals are split between high- and low-quality loans and marketed and priced accordingly. As one investor put it: "Generally I'd say CMBS will be a smaller market, a more thoughtful market."



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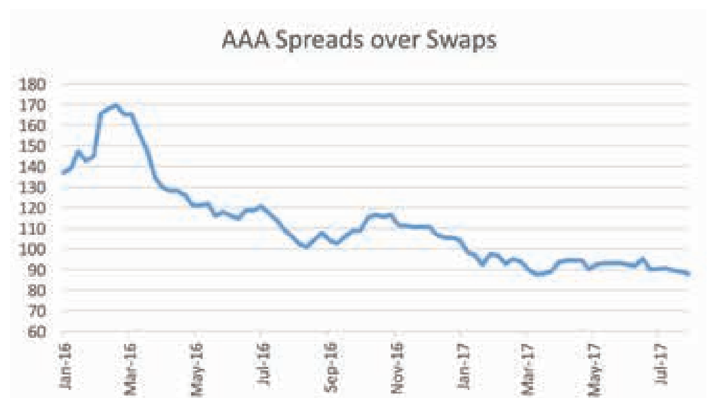

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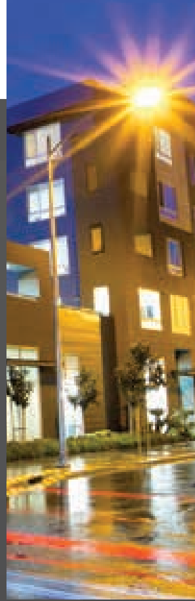

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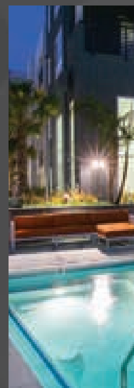

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