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dialogues

TURNING DATA INTO DEALS

How managers are taking control of their data to drive asset and fund performance

ALSO IN THIS ISSUE

Using family income research to find student housing deals

How technology can protect corporate culture

Affordable housing and the growth of real estate impact investing

A SUPPLEMENT TO INSTITUTIONAL REAL ESTATE AMERICAS, MAY 2019

NAREIM dialogues

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Zoe Hughes, CEO

I like to ask questions. As a former journalist, that fact may not come as much of a surprise to many of you, but even after more than two decades of reporting there is nothing quite as exciting as asking someone a question that truly makes them think.

Not questions where the answer easily rolls off an interviewee's tongue, but one that makes them pause. Take a breath. And search for the answer. As a journalist, you know then that you're targeting the right angle.

Within my first two weeks of taking the reins at NAREIM, I found myself on the receiving end of just such a question. I paused. Took a breath. And didn't have a genuine answer.

The question was effective because it was so simple — and so direct. And it's the one question that's been front and center of my work over the past six months: "What is the vision for NAREIM?"

Let me pause here, take a breath, and try to find the right words for that answer.

There is much said today about editorial integrity. It's a phrase currently and carelessly thrown around our political discourse by all colors in their attempts to prove the importance of one story over another.

It's a phrase, however, that should be deeply meaningful to us all and goes to the heart of who I am as an individual.

Editorial integrity is about having an unbiased approach to your task. It is about asking questions that may be uncomfortable to pose, let alone get answers to. And it is a willingness to change your angle when new information presents itself.

That is, and always has been, the vision of NAREIM.

While NAREIM's content focuses on the future of investment and strategies for real estate investment management firms, the association is more than that. NAREIM, as a community of members, is about a spirit of questioning that allows for best practices to be shared among peers; it is about a willingness to learn from one another in the search for additional value; and it is the understanding that the answers we have in mind today may not be the ones that will work tomorrow.

This editorial questioning, this editorial integrity, is something you'll see throughout our work at NAREIM — including in this new version of our biannual magazine.

In this issue, our members explore strategies for strong corporate culture, as well as share best practices relating to parental guarantors for student housing, the impact of Gen Z on brick-and-mortar stores, and driving NOI growth through ESG. We also speak with the real estate COOs of BlackRock, Intercontinental, Invesco, and Nuveen about how they are scaling their platforms in an era of consolidation, and how data is one of the biggest challenges the industry faces.

Of course, we know that the answer for one firm will not necessarily be the solution for another. But without those conversations and without that spirit of questioning that has been at the heart of NAREIM's history — and future — we would all be so much poorer. Thank you for sharing.

MARX | OKUBO

A DEDICATED ADVOCATE FOR YOUR INVESTMENT.

As a national, multidisciplinary AEC consulting firm, Marx|Okubo works on behalf of real estate owners and investors at every stage of the property lifecycle to ensure asset integrity, confident decision-making and project success through vigilant risk mitigation. Engaging us means you have an impartial expert in your corner who provides an informed understanding of capital risks and benefits, while competently preserving your property investments.

BROAD PRACTICAL EXPERTISE & LOCAL MARKET INSIGHTS

Owner's Representation | Property Condition Assessment | Repair/Reconstruction Services | Sustainability
Structural Engineering | Accessibility | Construction Loan Services | Resiliency | Project Management

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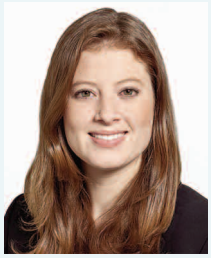
Second in command:

REAL ESTATE *through the* EYES *of the* COO

Being COO of a real estate investment management platform is a mammoth task. It's about stitching together risk management, performance, technology, talent, administration, strategic growth, and culture into a seamless effort that drives underlying asset and portfolio performance. It's also increasingly about data. NAREIM sits down to chat with the real estate COOs of BlackRock, Intercontinental, Invesco, and Nuveen about their priorities today and how they're looking to the future.

By Zoe Hughes

PARTICIPANTS



Beth Zayicek
COO, Invesco Real Estate

496 employees. $65bn AUM.

Current focus: "I'm evaluating our opportunities for future growth, as well as working on our efficiencies and data governance, and leveraging technology to improve investment performance."

Paul Nasser
CFO and COO, Intercontinental Real Estate Corp.

107 employees. $8.5bn AUM.

Current focus: "I am responsible for risk management, corporate finance, fund accounting, performance reporting, marketing and communications, admin, IT, HR, and investor relations. Data and cybersecurity are certainly some of the things we are focused on."

Wayne Fitzgerald
COO, U.S. Real Assets, BlackRock

400 employees globally.
$48bn AUM in real assets globally.

Current focus: "I'm focused on our strategic initiatives, recruiting, developing the best talent, and building an efficient operating platform. I am also responsible for our global real assets technology strategy, which means I spend a lot of time working with our internal software development and analytics teams as well as third-party vendors."

Rahul Idnani
COO and Head of Portfolio Management, Nuveen Real Estate

550 employees. $125bn AUM.

Current focus: "I wear two hats. As global COO, I lead our corporate development and M&A efforts, and as head of U.S. portfolio management, I lead a team of ten portfolio managers managing approximately $50 billion of AUM in the U.S. across all property sectors and risk styles."

One of the key challenges facing real estate investment management firms today is data, and how to efficiently leverage data to drive asset and portfolio performance. It sounds easy, but it's something almost all in the industry continue to grapple with — whether it's owing to challenges around aggregation of data, getting everyone in a firm to work from a single, master data set, or moving away from reporting to analysis of data to enhance performance. What are you doing?

Wayne Fitzgerald (WF): We're focusing first on improving our operating processes and creating efficiencies. Our U.S. Core Property Fund has over a 30-year track record, and as we look at how we've been doing business over the years, I've been encouraging our team to challenge legacy processes to find more efficient, technology-enabled solutions that allow us to scale. "That's how it's always been done" isn't a valid rationale for a business process.

Once you have good business processes, then organizing data becomes much easier. We are focused on gathering our data across teams in a central data warehouse and building tools that pull information and analytics from the same data set.

Vocabulary has been a key challenge. Our technology teams work to standardize vocabulary among our teams where it makes sense, but we also want teams to have the flexibility to use their own vocabulary and to build bespoke processes as necessary while keeping it in a central platform.

More efficient processes allow our investors to focus on driving investment performance.

Paul Nasser (PN): We spend a lot of time on attribution analysis and asking what has gotten us to where we are and what will maintain and, hopefully, improve on a go-forward basis as we invest in various property types and geographies. The biggest challenge we have is we're currently evaluating a number of third-party data vendors. The toughest part of that is figuring out who's going to be around six months to a year from now and trying to pick the right vendor that we can grow with and add onto and begin to mine the data in a way that helps our mission.

Beth Zayicek (BZ): Our clients are global. They want to know that, if they're receiving information from two different regions, there's a consistency in approach. So, we need to create a data structure that satisfies that demand. Further, achieving investment outperformance is the most important thing that we do. We're trying to build our data platform in a way that allows us to leverage external information with insights from our own assets to help us make strategic decisions on assets and portfolios. The ultimate goal is to help us improve performance.

Rahul Idnani (RI): I agree with what's been said. We have been more focused on mining the data on our $125 billion portfolio of real assets globally. We have even hired a data scientist on our team to do just that. For example, our research team has been leveraging alternative data sets like Uber and NYC Taxi data to identify where millennials are going after their nights out in Manhattan to help our investment teams find vibrant live-work-play submarkets. We have even used Citi Bike data to understand ridership trends.

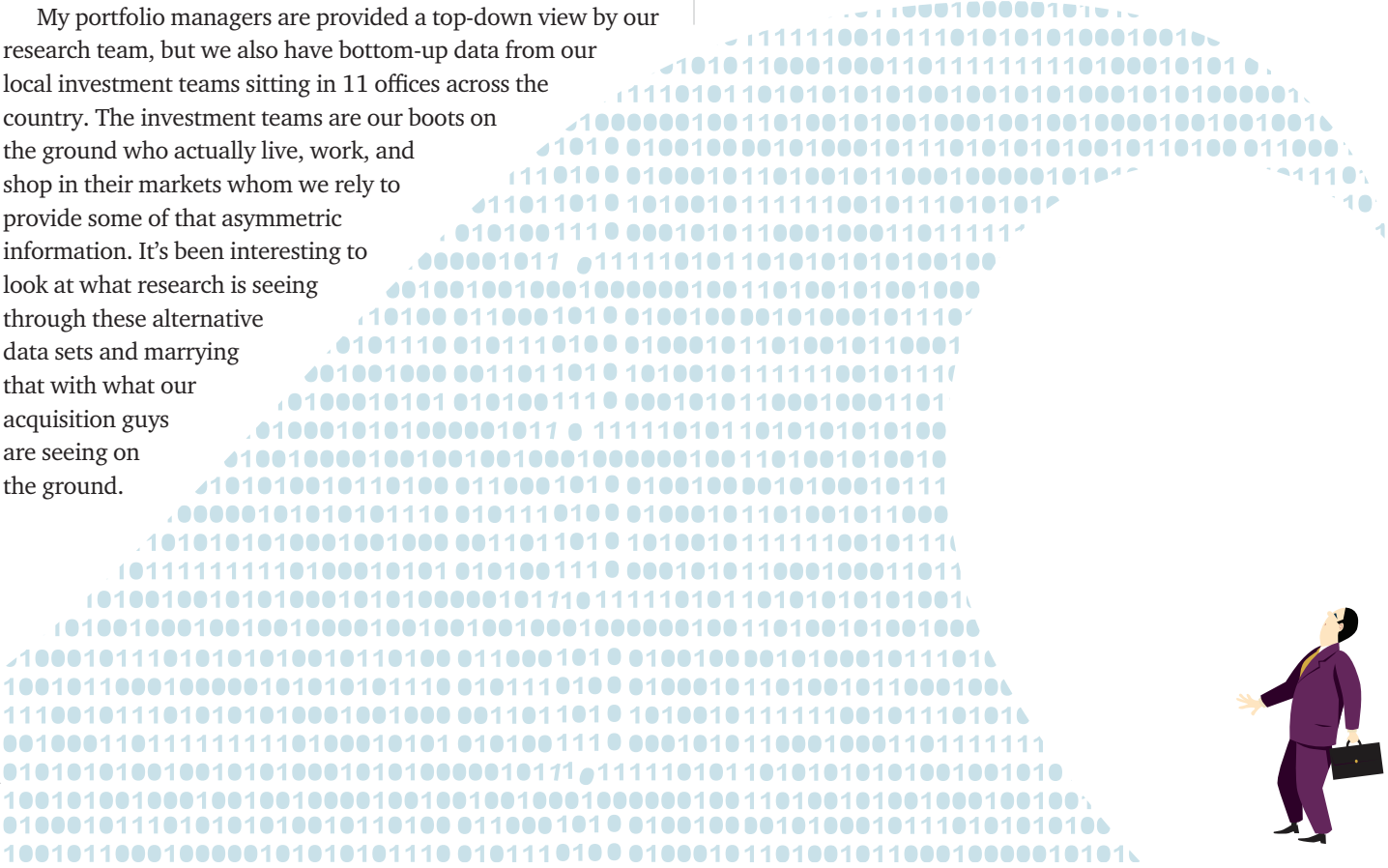
My portfolio managers are provided a top-down view by our research team, but we also have bottom-up data from our local investment teams sitting in 11 offices across the country. The investment teams are our boots on the ground who actually live, work, and shop in their markets whom we rely to provide some of that asymmetric information. It's been interesting to look at what research is seeing through these alternative data sets and marrying that with what our acquisition guys are seeing on the ground.

BZ: I'm glad you brought that up because that is something that we focus on as well. Hiring people with a data science background to be able to mine information is becoming more and more important.

RI: It goes back to us losing people to other industries. How do we get some of these really bright and technical individuals with STEM backgrounds and draw them into real estate?

WF: We've had this debate internally and historically I've been skeptical that data and artificial intelligence will drive real estate equity investment decisions; however, we found that consistently pushing our modeling and enhancing our due diligence with new data offerings have increased our conviction around potential investments.

RI: I think data adds another lens. The data sometimes isn't entirely supportive of what the boots on the ground are seeing



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and saying. At the end of the day, it's the portfolio manager and, ultimately, investment committee's call to weigh the two different data sets.

PN: We're all striving for outperformance. We want the data to allow us to maximize the value of our assets, to dig deep into various inputs that, quite honestly, we've not studied before, for example Uber or Lyft trends, and all of the things that are changing our society and therefore the way we use offices or apartments. We want to be able to access that information which will lead us to decisions that result in outperformance. That's really what we're striving for.

THE QUARTERBACK COO

Let's step back a little and ask what it means to be a COO today as you all come from different backgrounds. What are the biggest two challenges for you over the next two to three years?

BZ: It is sometimes a little hard to define because I get pulled in multiple directions. Within Invesco, a lot of how we grew over time was organic growth but also selectively through acquisitions. Part of my role is making sure we're working as one firm while keeping an eye on ways to further deliver for our clients in the future. As I mentioned, executing on our data strategy is a big part of that because our clients demand a global approach and investment outperformance.

RI: Given that my COO role is, in large part overseeing portfolio management, our key challenge is performance. We are late cycle with property cap rates at historic lows and certain property sectors like retail and office experiencing great disruption and challenging occupancy and same-store NOI growth. At this cap rate level within an already mature stage in the cycle, we view greater risk for potential cap rate expansion and operating performance deterioration. To counter that risk, our platform relies heavily on asset managers to be creative and on the offensive in the face of functional obsolescence for sectors like retail and office. They are joined at the hip with the portfolio managers in making prudent, accretive decisions at the asset level. Over the past five years, commercial real estate performance, just like the broader market, has been strong across the board, but the next five years will be about thoughtful portfolio construction and proactive asset management.

PN: As the COO, I liken my responsibilities to the quarterback of our company. By that, one of my key responsibilities is to point everybody in the right direction to make sure that we have the resources across our platform to execute the strategy of our fund. While I may have many different reporting lines, my job is to make sure that we have the right people in each of those roles so that whenever there's an issue, I'm accustomed to assisting with solutions and bringing necessary resources, whatever they are, to execute our strategy.

WF: Paul summarizes the role well. I spend half my time responding to the day-to-day needs of the business; a COO must help connect teams and find solutions across a wide spectrum of issues. I spend the other half of my time focusing on our biggest challenges — technology and talent, which includes recruiting and retention. As we expand our business over the next few years, I am also staying very focused on culture and ensuring we fulfill BlackRock's Principles, being fiduciaries for our clients, maintaining a passion for performance, operating as One BlackRock, and driving innovation.

Most of you have undertaken significant M&A deals. What's your biggest takeaway?

WF: Once you make the significant strategic and financial commitment to an acquisition, it's all about execution and culture. The first thing, from my perspective, is to stay focused on the experience of your new colleagues. You need to understand the impact of post-merger changes and how those changes impact their day-to-day activities. It's the small stuff that can really trip you up.

We want our new colleagues to stay focused on our clients and do their jobs well, as opposed to spending lots of time trying to fix something with IT or having a vendor approved through vendor management. Once you have the day-to-day activities running smoothly, you can then focus on bringing the cultures together.

BZ: For Invesco, culture is top of mind. Ours is very simple: We take care of our clients and we take care of our people. That means having a performance-driven culture built on trust, transparency, and good communication. It is important that any acquisition target has the same values.

RI: We acquired Henderson Property Group in 2015. It was a U.K.-based asset manager with $25 billion in AUM in Europe and Asia Pacific with over 300 institutional clients. The biggest takeaway for us as an organization was the culture. The core of the business we acquired was the client-centric and performance culture. Since the acquisition, this culture has permeated throughout the U.S. and globally. Many of our global leaders are from Henderson, including our CEO and CFO.

MANAGING THE TALENT

Which is the biggest talent challenge for you: recruitment or retention?

PN: Finding and attracting the right people for the right role(s) so that they're set up to be highly successful is, by far, the most important thing that I face when it comes to recruitment and retention. Happy employees who are proficient at what they do only means that our clients and investors will benefit.

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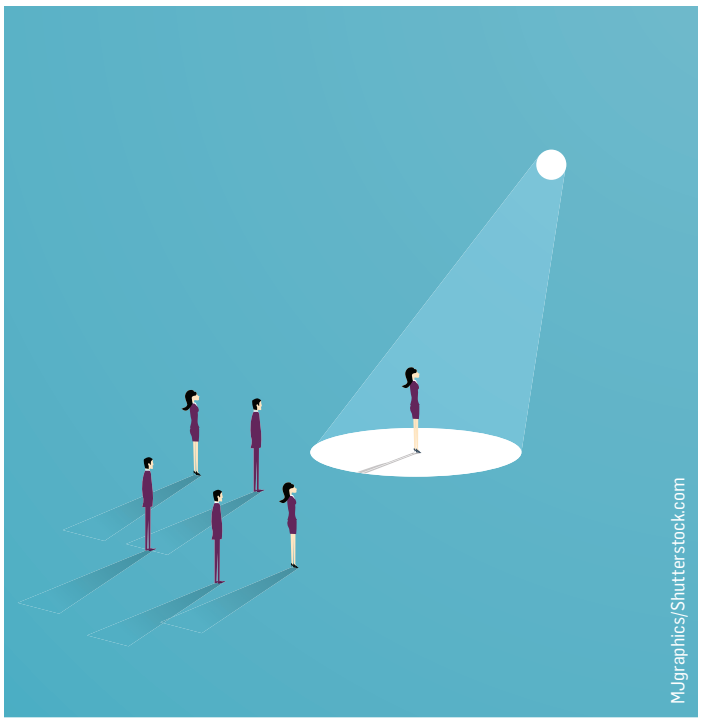
BZ: The best way to retain people is to make sure that they feel challenged and valued in their roles. As a management team, we review the entire employee base at least once a year. We identify individuals who may be looking for new challenges and opportunities and think about how their skill sets may apply to something different than their current role.

In addition, we're very focused on diversity. We are being much more intentional about gaining different perspectives, both for new hires and within our existing employee base. To do that, we need to ensure we are putting forth a diverse candidate pool and evaluating candidates with a diverse interview panel.

WF: Given the growth of our business, BlackRock Real Assets focuses on both retention and recruiting. We spend a lot of time on retention. We conduct a talent review with each of our investment businesses at least once a year. We review each member of the team, how they are doing in the role, how we can create stretch assignments for individuals, and whether they feel valued in the roles they're in. We've recently shifted people across teams and across regions to get them experience in new markets, help them learn new ways of doing things in other regions, and cover short-term staffing needs.

On the recruiting front, BlackRock's focus on inclusion and diversity has helped us substantially increase the number of women and minorities on our teams. We believe that diverse teams produce better results. Beth makes a great point on making sure that interviewer slates are diverse and that we're gathering different perspectives. At BlackRock, we're also very focused on these issues. In today's environment, these considerations are paramount to running a successful business and delivering the best products and services to clients.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BALANCING THE PRESENT AND THE FUTURE

What's a piece of advice you would offer to other COOs?

BZ: As Paul said earlier, the industry is changing. It's becoming much more data driven. We are being inundated with data service providers and there is a concern around picking the winners and losers and falling behind. I think we must remember that our clients hire us to invest in real estate and deliver performance. You should use your service providers to help you do that in the best way, but you can't allow yourself to become distracted. You must focus on what you can control and on continuing to improve.

PN: As a COO, I focus on our quarterly performance and make sure our teams are on track and, hopefully, outperforming the competition. In addition, I try not to take our eyes off a forward-looking perspective. A COO has to be in the here and now yet also look to the future. It's balancing both that allows you to get your firm to the place that you ultimately want it to be.

RI: For me, it's obsolescence. In real estate, we think of economic, physical, and functional obsolescence. For a COO, it's our job to be proactive and best prepare our platform to address the challenges obsolescence brings. So it's making sure the platform works more efficiently and effectively, and ensuring we have the right data and tools to drive the best forward-looking decisions whether they're related to investment or operations.

WF: Stay focused on building diverse teams of technologically savvy people. Innovations that are disrupting other industries will transform real estate, and we need to stay focused on building teams that can embrace that technological change and continue to drive performance. Build a culture of constructive challenge and enjoy spirited discussions! ◆

Talk dirty data TO ME

Data is the new currency of business. But what if your data is incorrect?

By Matt Hooper and Daryl Pitts, Saxony Partners

Although it sounds provocative, dirty data is just data that is incorrect, incomplete, or miscategorized. It is often borne of simple inaccuracies, poor processes, and/or inadequate software solutions.

Dirty data isn't exclusive to any specific type of company. Rather, it is universal — every company has some dirty data, even yours. It is the digital equivalent of a red shirt hidden inside your white laundry; many companies don't spot the issue until everything is pink.

There are ways to identify dirty data, clean it up, and keep it clean. But before we discuss solutions, let's dive deeper into the what, where, and how of dirty data.

Types of dirty data

Where there's data, there's going to be dirty data.

This is particularly true of real estate data, which covers multiple metrics across the entire life cycle of the asset. New data is constantly entering the life cycle from the investors, to the underwriters, to the asset managers, and back to the investors. If that data is compromised, then every subsequent stage within the life of the asset is compromised, as well.

Although any of this data can be dirty, property-level data is likely to be the most compromised.

Lease-oriented data tends to be the dirtiest. This includes everything from inaccurate summations of the lease (reflected in Yardi or some other platform) to misspelled tenant names.

Imagine you own several multifamily housing developments. Now perhaps you have accumulated a few slight variations on the spelling of tenant names, or a misplaced digit in a few phone numbers. Not only does this mean your lease data is incorrect, it means you probably have some duplicate data. When you discover that Mrs. Brice actually spells her name "Bryce" — you likely now have both names in the system. The relationship between inaccurate data and inefficacy is directly proportional. Inefficiency leads to higher employee headcount — someone has to sort through the mess, after all. And higher headcounts translate to lower margins.

[1] Altus Group, *Future-Proofing the CRE Industry: Is Commercial Real Estate's Innovation Curve Moving Fast Enough?*

And then there's dirty accounting data. The team at Saxony has seen this scenario play out more than once: an asset manager, anxious to produce a report or complete a task, bypasses the accounting department and grabs numbers from wherever they can be found. Are those numbers up-to-date or properly contextualized? Who can say? (Well, accounting could say, of course — but they were passed over.)

The result? At best, inaccurate data, and at worst, shadow accounting.

How does dirty data get dirty?

There are innumerable ways to corrupt data, but most common are lack of data governance, a preponderance of siloed processes, and inadequate software solutions.

Data governance is a multi-legged stool, with one of those legs being data integrity. Processes for capturing, cataloguing, and reporting data have to be consistent across your organization. If, for instance, your asset manager defines a certain term differently than the portfolio manager (and neither is aware of the difference), you will have inaccurate data. It's safe to assume that lack of data governance broadly — and lack of data integrity specifically — represents the single greatest contributor to dirty data.

Siloed processes can contribute to that lack of data governance. There's no reason for asset managers and portfolio managers to be out of sync with one another, but it happens often. When companies splinter from realms into fiefdoms, the lords and serfs each feel compelled to devise their own independent processes and procedures.

Say, for instance, that an asset manager wants to execute a tenant exposure report or a top-ten clients report. Pressured by time, she/he decides to create a proprietary, off-line procedure to expedite the process. It works — or at least it works until that asset manager leaves the firm and takes their proprietary knowledge with them.

What motivated the asset manager to go rogue? If the firm was utilizing *inadequate software solutions* to manage asset data, then their reporting was probably more painful and time-consuming than it should have been.

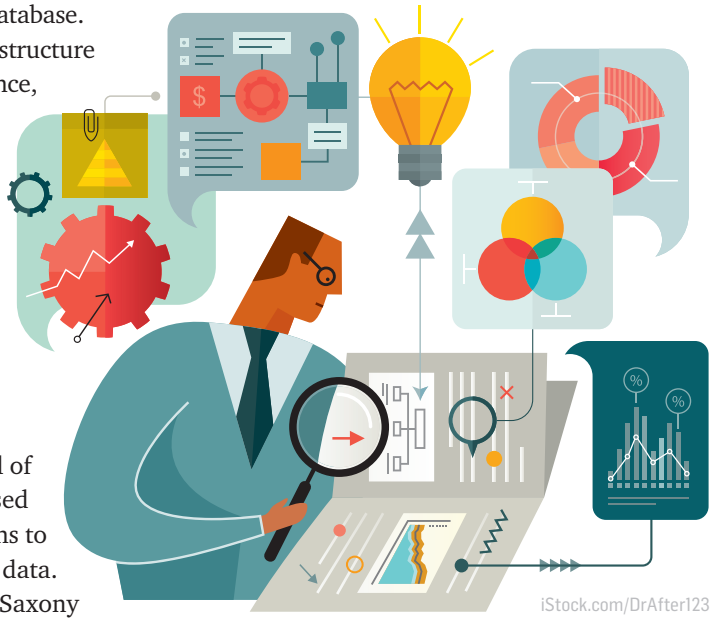
According to a recent survey,[1] roughly three in every four commercial real estate firms are using Microsoft Excel to manage their core investments. For many of these firms, this represents hundreds, perhaps thousands, of spreadsheets spread across multiple locations. Such a scenario leads to two big problems: one, it makes work more complicated and firms less efficient; and two, it increases a firm's organizational and reputational risk.

Excel is popular because it's flexible and widely accessible. But that flexibility is a double-edged sword when it comes to creating a database. Because it lacks rigid structure around data governance, employees have the implicit ability to invent shortcuts that undercut data integrity.

If not Excel, then what? The same survey found that more than 70% of CRE firms surveyed realized the potential of integrated, cloud-based management solutions to manage their critical data. These solutions, like Saxony Partners' Pereview Software, provide a secure, integrated platform for data across the entire life of the asset.

Such software platforms boost data governance by enforcing strict rules around accumulating, managing, and reporting on asset data. And because these specialized software platforms establish an integrated, single-source-of-truth for your firm's data, employees are blocked from engineering their own proprietary processes.

> "There are innumerable ways to corrupt data, but most common are lack of data governance, a preponderance of siloed processes, and inadequate software solutions."



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The effects of dirty data

Doing things wrong increases risk, turns off investors, wastes money, and risks legal repercussions.

If you present a report to your investors stating that their return will be X, when the actual return is Y, there's going to be a reckoning. There will probably be some digging into your actual numbers and your processes. And, depending on what they find, there could be a loss of confidence in their estimation of your firm.

That loss of confidence trickles down from investors to management, and from management to employees. After all, it's the employees who are consistently reporting this bad information.

Of course, issuing erroneous reports increases more than just reputational risk. Dirty data might give the government a reason to poke around into your numbers and processes, too.

Fixing faulty reporting and dirty data requires time and people. Like crime scene investigators, employees have to retrace processes, track down real numbers, and retroactively apply fixes to reconcile accounts. Headcount expands, money is wasted, and morale sags.

Discovering dirty data

Of course, the forensic investigation employees' undertaking of an effort to find and repair damage done by dirty data is usually step four in the dirty data remediation process. Step one: Data gets dirty. Step three: Companies discover dirty data. Step four: Companies work backward to correct the problem. Step two is when someone starts running quarterly and monthly reports using this dirty data.

Step two happens frequently when the onboarding process begins, as is customary, with a business process review. During that review, many of the company's regular reporting is reproduced and compared with previous reporting. Inconsistencies between these reports have nowhere to hide.

> "Cleaning data and keeping data clean are two different things."

Cleaning dirty data — and keeping it clean

When reporting uncovers dirty data, consultants can help you devise processes for cleaning data (and keeping it clean). But it's up to the company to execute that forensic investigation and reconcile their own data. Doing so improves workforce efficiency, increases productivity, mitigates risks, and establishes a firm foundation that allows a company to do more with their data.

Cleaning data and keeping data clean are two different things. You can do the latter by establishing strict guidelines around data governance, implementing standardization, improving internal communications, and adopting software solutions serving the entire life of the asset.

Standardization forces companies to clearly outline data governance processes, definitions, categorizations, and accountability into one playbook. This process should be led by the company's chief information or technology officer and include input from everyone who is directly involved in data governance and maintaining data integrity. Once created, this playbook must be distributed to every department within the organization. Accountability measures outlined within the playbook must be followed to ensure that siloes are not being rebuilt.

Companies must also build standardization into their reporting processes. This is very difficult, if not impossible, to achieve within the Excel environment. Pulling data into a software platform that can collect, secure, and manage data across the entire life of the asset radically reduces the amount of time and personnel needed to execute those regular reports. And having all of your data in one holistic system greatly reduces the chances of compromised data.

Conclusion

Your company is affected by dirty data. Dirty data has, to some extent, impacted your efficiency, increased your risk, muddied your reporting, and impacted your bottom line. That's the bad news.

The good news is that you are not alone — there's hardly a real estate company anywhere that's not facing the same situation. And there's more good news — by shoring up data governance, implementing standardization, and evacuating your data from Excel to a life-of-the-asset software solution, you can ensure that your data is clean, now and in the future. ◆

Matt Hooper joined Saxony Partners in July 2018 and leads the company's strategic communications and branding department.

Daryl Pitts joined Pereview Software as Senior Vice President of Sales in February 2018.

“It’s a been a joy to become more of a player coach than just a pure player.”

Alok Gaur

Global Co-Head of the Client Capital Group
LaSalle Investment Management

Interviewed by Wanching Leong

Date joined: July 2016.

Background: B.A. in South Asian Languages and Civilizations and M.B.A., University of Chicago. Coopers & Lybrand, The John Buck Company, Credit Suisse Real Estate Private Fund Group, Greenhill & Co., The Carlyle Group.

Current role: My partner Jon Zehner in London and I are charged with making sure that the firm is raising capital for each of the firm’s important open-end funds, closed-end funds, and separate accounts, as well as our securities team. We have a 40-plus person team of client executives who speak with investors, project managers who manage the fundraising process, and marketing and communications who help the entire firm with its messaging both locally and globally. Jon and I sit on top of that machine, which raises give or take $5 billion a year. I also sit on the global management committee of the firm with Jon and we as a group help advise Jeff Jacobson, our global CEO, about the strategy and direction of the firm.

Best part of the job: As I get more senior in my career, the best part of my job has become helping other people succeed. I take great joy in watching our people do great things and knowing that I had a small role helping them or a small role in helping the firm create a product which it could then go out and sell. I’m in a position for the first time to impact material change on an organization and I’m enjoying it.

Worst part of the job: I miss the more direct contact with investors, and I’m still adjusting to not having it on a day-to-day basis. Managing people comes with its own set of challenges and you realize that you are directly responsible for people’s well-being, not just from a financial standpoint, but what you’re helping them do at work also impacts their families. That weighs on me. You want to do the right thing for the right people.

What are you spending your time on: We recently purchased a debt business called Latitude as well as Aviva’s multi-manager business. Both of these acquisitions are being integrated and we are thinking about new product development. The second thing I am focused on is scaling the products that we currently have in a more meaningful way so that they can really impact LaSalle’s bottom line.

Email or phone call: 100% phone calls. I don’t believe that emails capture tone and substance.

What could the industry be doing better: Real estate is a very inefficient asset class, which is the beauty of it in terms of being able to generate returns for investors. But there’s been all kinds of issues because of its inefficiency. Data and technology are probably going to be the number one driving force behind continued change in real estate in a more meaningful way than ever before. Hopefully in five or ten years, real estate is even more transparent in a way that people can really understand and want to participate in even more meaningfully.

Something you’ve learned that has been useful in your career: It’s a small world. The people that you work for could soon be your peers or could be working for you. The people you meet could be a great source or network for another position. It’s happened to me twice in my life where a new position was brought to my attention by an industry contact that I had networked with years earlier. The importance of building and maintaining relationships cannot be overemphasized.

What’s kept your interest about the industry: Being the son of immigrants who came to this country in the early 1960s, I’ve always had a global perspective because that’s how I was raised. When I entered real estate, I was focused on my hometown of Chicago, but as I got deeper into the asset class, I was immediately looking at deals in Seoul, Hong Kong, and India. The global nature of real estate is wonderful. I’ve wanted to be a part of that global story because you can have a front row seat to the ways the world is changing both from a real estate and societal perspective. ◆

Late-cycle construction DUE DILIGENCE

As design-build projects are becoming increasingly popular, investors can take steps to ensure projects are completed on time and to plan.

By Chris Ghatak,
Partner Engineering and Science Inc.

Pursuing new late-cycle real estate development opportunities can be fraught with uncertainties and risk. Investing in projects today requires that projects are not only monitored more proactively during construction, but also that the pre-closing due diligence model itself be re-evaluated in light of risks inherent to trending design-build delivery models.

While mining the lessons of previous downturns for guidance and working to make practical use of incoming due diligence findings, how can investors alleviate the tension between making a lucrative deal in a period of tepid growth and the mandate to ensure that deal works out as planned?

Initial risk assessment

Once the project's fundamentals have been agreed upon, the initial construction risk assessment may proceed in the usual way. But should

[1] Design-Build Institute of America, *Design-Build Utilization Combined Market Study*.


iStock.com/hanohiki

it? At this point in the cycle, due diligence protocols must be adapted accordingly.

The focus on risk management for both new and ongoing development today is understandably high. Pre-closing, it is mandatory to assess partner capacity vis-à-vis their other commitments. If the market for product tightens slightly, or dramatically, which among their projects will the developer throw their energy behind first? Have they built up strong local relationships with design and construction teams that have relevant experience with similar building type and scale? A commitment to strong design values, both technical and aesthetic, in a sponsor or joint venture partner will improve sales or lease-up potential.

A construction risk management consultant can do more to minimize investment exposure with the right strategy in place. In-house teams typically comprise fund auditor and an internal architecture and engineering (A/E) group at minimum. Asset managers, and interestingly also originators, are increasingly staying with not only the relationship but also the project, seeing it through to completion. As a weekly on-site visit is typical for equity investments, a consultant's close monitoring of projects can help provide important context to incoming data, assist in justifying costs, and draw a distinction between real and perceived risk, while mitigating future risk with a forward-looking approach. In support of a takeout, consultants may primarily focus on overall quality, code of compliance, and fidelity of the work built to construction documents. It has also become increasingly common for consultants to serve clients in an advisory capacity, helping to establish or review due diligence best practices for a specific line of business. A consultant may also act explicitly as an advocate for an equity investor.

An investor's focus on clearly communicating the deal position and priorities (whether lender, equity, takeout buyer, etc.) to the consultant becomes increasingly important the more deeply involved the consultant is on the investor's behalf. Parties need to work together to make a thorough and clear-eyed evaluation of the project team, its design documents, costs and contracts in progress, all while maintaining a positive mood pre-closing.

Bringing a project to bear

Having undertaken an assessment and closed on the funding, the time has come for the developer to put boots on the ground and bring the project to market. The hope is that they will be able to deliver. Does it matter how? If some or all of the values discussed here are familiar — vigilance over schedule control, a commitment to the quality of the project being delivered, and an abiding interest in the developer's ability to control project costs above a certain defined limit — then yes, it probably matters how.

The major project delivery methods used today include: (i) design-bid-build (27%), where the owner contracts separately with A/E and builder; (ii) construction management (CM)-at-risk (32%), which is similar but brings the builder into the process during design to gain certainty in meeting budgets and ensuring constructability; and (iii) design-build (39%), where a single entity delivers the design and builds the project.

Design-build contracts are expected to build on what is already the largest share of construction spending, to as much as 44% by 2021.[1] The ascendancy of design-build and its variants for

[2] *Ibid.*

Unpriced at closing

"Post-tensioned concrete; steel joist framing; steel decking; metal-framing; furring assemblies; metal fabrications; metal stairs; pipe and tube railings; tempered glass railings; cable railings; metal wall panels; cementitious wall panels; membrane roofing; firestopping; storefront window systems; curtain walls; gypsum board assemblies; acoustical ceilings; signage; swimming pools; elevators; sprinkler systems; fire alarm systems… mechanical systems; electrical systems; and plumbing systems."

At closing — that is, at the end of the pre-closing due diligence document and cost review period — the items listed above for a large design-build project located in a highly competitive market had not yet been designed. They were priced as an estimate only, with costs left out of the contract for construction. Systems and components had not been coordinated with the architect or structural engineer, although that would occur on a rolling basis post-closing with veto power held by the owner.

As to any certainty regarding the yet-to-be specified material quality, "membrane roofing system" is about as descriptive as "weatherproof outerwear," which could be whatever you have in your closet, though technically a plastic rain poncho qualifies.

project delivery are worth understanding in the context of investment expectations and efforts to re-tune the construction due diligence process. Unlike the design-bid-build method, prevalent for so many years, design-build is more of a work in progress being actively adapted and evolved, as is evidenced by the many discussions among architects, construction executives, and business consultants aimed at improving lean construction practices, integrating design, fabrication and construction, and distributing risk and reward.

In a Design-Build Institute market survey[2] of owners who had experience with each of the three delivery systems, less than half saw "improved quality" as a reason to choose design-build. On the other hand, 68% saw "reduced construction schedule" as a distinct benefit of design-build.

The primary benefit of design-build is the reduction of risk and liability to the owner. As legal liability goes, counsel may advise. Risk, on the other hand, deserves further consideration here. For instance, several systems noted in the sidebar example above required municipal permitting. Given that permit review times in a design-bid-build or CM-at-risk project are generally acknowledged as posing risk to the project schedule, is that no longer the case just because they've been pushed out past closing? The additional cost of a permit-related delay indeed lies with the design/builder, provided that the developer has not taken responsibility for any permitting duties or otherwise compromised its freedom from liability. But as an equity partner or lender to the project, time lost is time lost at this point in the cycle, and deadlines in the funding agreement may be at risk.

In the design-build project sidebar example, the municipality made a plan review of MEP (mechanical, electrical, and plumbing) systems optional and refused to allow MEP sheets into the initial permit set for reference. As the mechanical design/subcontractor was technically within their rights to decline plan review, they did. This resulted in the construction of a full-scale model of the entire mechanical system in real-time for the review of the now rather heavily burdened building inspector, who eventually raised an objection that led to a substantial delay. Design-build, while widely acknowledged for reducing construction schedules, is not without notable risks.

Less obvious liabilities lie in design-build with an owner/builder. While the development and construction arms of an owner/builder may be separate financial entities housed under the same roof, there are notably fewer battles over change orders along the way, with most resolved quietly and internally. However, there can also be a certain lack of transparency, a decidedly vague schedule of values, and diminished incentives to negotiate changes in cost. The risk of descent into acrimony and project failure is reduced or nonexistent, perhaps at the expense of benefits afforded by checks and balances in play where the owner is connected to the builder only by contract.

Construction due diligence

Many business case studies conclude that change is a requirement rather than an option. With the way investors are adapting to this real estate cycle and the growing use of the design-build delivery model, we recommend the following strategies when undertaking construction due diligence:

Maximize the value of your document review. The design-build delivery model in effect causes pre-

> “Closing out the initial review period without ever having seen large portions of the design subverts the overall intent of due diligence.”

closing due diligence to be largely circumvented, as both design and cost are de facto unavailable for review. Further, there can be numerous and sometimes loosely scheduled dates for delivery of sub-design packages post-closing. If a due diligence protocol is built around the assumption that design documents would be 95% complete at the time of review, with a contract more or less fully negotiated (design-bid-build), it may be time for a change. Set minimum requirements for the level of completion that must be attained in construction documents prior to pre-closing review and push back on the number of deferred design packages to ensure an early review of quality-critical elements. Include terms and conditions in the agreement that consolidate and firmly fix sub-design delivery dates early in the project schedule. Insist on the right to conduct due diligence relative to those dates and before the subcontracts for procurement and construction are executed, ideally only twice — at initial guaranteed maximum price (GMP), and at final GMP. Due diligence can also be controlled and improved by reserving the right to issue work release letters by sub-package, which has the added benefit of facilitating buyout reconciliation in real time.

Although it may seem novel to draw out document review into the construction period, the initial due diligence review should track with finalized design whenever that may come. Closing out the initial review period without ever having seen large portions of the design subverts the overall intent of due diligence. As for cost controls, the term “guaranteed maximum price” really starts to miss the mark. Is it guaranteed for demolition abatement and site prep, and then updated with 40% increases at both initial and final GMP post-closing? Is it guaranteed, excepting escalation of 25% tariff mark-up on all steel and aluminum because design won’t be ready for pricing and a subcontract until later? Pre-closing review in design-build is no less necessary than in any other delivery model. If it is to serve its purpose as a fundamental risk management process, it needs to be expanded to match project design phasing.

Certain elements of the design may be critical to an internal deal review. Make sure to communicate what is considered essential knowledge to the consultant and ask which among the many documents they request for review are essential to evaluate project risk. Beyond the documents, consider having the consultant underwrite the contractor via a formal evaluation. For complex projects, consultants may be able to offer in-house disciplinary expertise in document review for MEP, structural design packages, and sustainability requirements.

Once construction is underway, it is important to be clear about draw review expectations and processes. Also key is establishing a working relationship with the developer once the work has commenced. A construction risk management consultant could simply report the straight facts gathered on-site and in documents, extracting what seems relevant for an investor’s interpretation. More often, the consultant serves best as an extension of the team, more deeply engaged and with a better understanding of priorities, as a resource or advisor, helping to maintain a functional and mutually beneficial dialogue with the development team. Raising the flag on quality issues needs to be handled with tact and an investor’s representative on-site should have a basic understanding of how to approach potential problems, which means understanding the relationship. Further, the content of reporting should show an understanding of the investor’s position and be easily accessible in support of its goals.

How much presence the investor would like on-site may be influenced by a rational and methodical evaluation of how much specific risk to its interests a project carries, which as we’ve seen can be influenced by a variety of factors, not least of which are the position in the deal and form of contract/project delivery method. In addition to the physical presence on-site to monitor progress and schedule, controlling the flow of funds for the project is prudent since the majority of construction failures are financial. Third-party funds control can reduce the likelihood of having to bond around a claim, which is both aggravating and time-consuming. As a detailed and proactive approach toward finding and correcting cost discrepancies before they occur, it also supports the effort to ensure clear title.

A structured, proactive, and strategic approach to construction risk management through due diligence, both physical and financial, with a functional understanding of the contractual and physical elements in play, will help to ensure a profitable endeavor in these changing times. ◆

Chris Ghatak is Practice Leader, Institutional Investor Construction Services at Partner Engineering and Science, Inc.

Opportunities in purpose-built STUDENT HOUSING

Analyzing parental guarantor income levels for students at four-year public universities can yield interesting insights.

By Thomas Errath,
Harrison Street

Student housing has provided a unique investment opportunity for investors seeking consistent and stable returns provided by the ongoing demand generated by students attending four-year public and private universities in the U.S. Students continue to seek university degrees because of the tangible, long-term career and economic benefits received by degree holders. The total U.S. higher education market consists of approximately 13 million students attending public and private four-year universities, many of whom live in student housing for at least part of the time they are enrolled in school.

The student housing sector is comprised of: (i) off-campus student housing facilities operating under a 12-month lease model; and (ii) on-campus, university-affiliated student housing facilities operating under an academic lease year model.[1] Most public university students live in on-campus housing their freshmen year, either as a university requirement or as a rite of passage. Subsequently, many leave

[1] Harrison Street research found that the average U.S. public university can house approximately 30% of its students in on-campus housing.
[2] Harrison Street owns approximately 80,000 student housing beds across a wide range of U.S. public and private universities.
[3] *Trends in College Pricing 2018*, The College Board.
[4] Bureau of Labor Statistics press release, *Usual Weekly Earnings of Wage and Salary Workers, Fourth Quarter 2018*, January 17, 2019.

> “The off-campus student housing industry is characterized by purpose built, privately owned, and highly amenitized student housing facilities located near university campuses.”

university housing after their first year, either because it is not an option or students no longer prefer to be subject to university residence rules.

Off-campus student housing fills the need for student accommodation created by a structural undersupply of on-campus housing at public universities. The off-campus student housing industry is characterized by purpose built, privately owned, and highly amenitized student housing facilities located near university campuses. They come as furnished units, with amenities designed for students, and are leased annually by the bed. This category of student housing accounts for approximately 20% — and growing — of the available housing stock in public university housing markets. On-campus and non-purpose-built off-campus housing and living at home round out the housing options for students.

Perceptions around purpose-built student housing abound, but one that has long intrigued us is that only affluent students occupy purpose-built student housing. We wanted to test this notion utilizing actual recent data collected from our student housing portfolio as we suspected student housing was occupied by students from all demographic segments.[2]

Considerations in pursuing higher education in the U.S.

Because it is becoming ever more expensive to attain a university degree, the decision-making process of pursuing higher education in the U.S. has become more complex for students and their parents.

The total all-in cost over the course of a student’s higher education, assuming no financial aid and four-year enrollment, is approximately $103,500 for an in-state public university education. Out-of-state public education is approximately $168,000, compared to $210,000 or more for a private university education.[3]

Despite these sums, data shows that degree holders aged 25 years and older earn approximately two times what non-degree holders earn. The average 2018 median earnings for degree holders was $66,200 annually, compared to $36,500 for high school graduates. Considering the average student loan balance of $26,500, the payback period for a degree holder averages just over a year.[4]

Taking together the cost of higher education and average salary of degree holders, the public or state university in-state tuition option is the best value in higher education. Students are increasingly selecting schools based on this attribute. This shift is not only driven by economics, but also by the quality of academics at state universities which are becoming a preferred choice for students who may have previously enrolled in private universities.

Students who want to attend, or are attending, college must weigh multiple factors, including increasing tuition costs, which can lead to higher student loan balances, and the likelihood that the desired degree will lead to a job after graduation. Sensitivity to the all-in cost of college — tuition combined with

[5] Includes universities from the major sports conferences including the Big Ten, Pac-12, ACC, SEC, and Big 12.
[6] Common Data Set — Alabama and Clemson: At Alabama from 2008 to 2018 applications grew from 14,000 to 38,000, undergraduate enrollment went from 21,000 to 31,000, enrollee top ACT scores (30–36) grew from 50% to 71% of students and out-of-state undergraduate enrollment went from 24% to 59%. Clemson saw enrollment grow from 14,500 to 26,000, applications increase by 5,000 annually, top ACT scores (30–36) go from 86% to 95% and out of state undergraduates grow from 29% to 34%.
[7] Anderson, Michael. 2017. *The Benefits of College Athletic Success: An Application of the Propensity Score Design*. MIT Press.
[8] The guarantor's gross monthly income must total three times the sum of the highest monthly rental rate, have verifiable employment and a verifiable source of income. A credit check is processed on all guarantors where a credit score of 500 or above is required, a score below 500 requires a prepayment of two months rent.

room and board — and the return on that investment has increased.

The analysis

To test our hypothesis that only affluent students occupy purpose-built off-campus student housing, we used our data from student housing properties at 45 different public universities across the country. The universities ranged from leading "Power 5"[5] or flagship institutions with more than 55,000 students to regional public universities with 20,000 students.

Power 5 schools and flagship schools are of particular interest to student housing investors. These research-driven, brand-name schools that also have the best athletic programs in the revenue sports of football and basketball provide the best public options for today's undergraduates. Typically universities that achieve success in sports on a national level see corresponding increases in enrollment, which is a primary driver of student housing demand. This is a key consideration for investors. For example, the University of Alabama's and Clemson University's football programs have achieved great success since the hiring of their respective coaches. At the same time, the schools have increased their attractiveness to prospective students as all the key enrollment metrics we seek when underwriting a student housing transaction have significantly improved.[6]

Academic research also supports the view that winning sports programs see applications, enrollment rates, and admission test scores increase, while selectivity or acceptance rates decline.[7] All are positive for student housing investment.

For this analysis, we utilized parental guarantor data at geographically and academically diverse public universities across approximately 28,000 individual leases for the 2018–19 academic year. We chose parental guarantor data because institutional student housing properties require signed parental guarantees and credit reports from the parents of the prospective student tenants. These credit reports provided us with the ability to anonymously analyze several important pieces of data, including parental annual income data (self-reported) and the parent's zip code of origin. This data is otherwise not available. When we started analyzing this data, we felt it could help us to better understand the income profile and credit quality of the student housing tenants at the property level.[8]

Exhibit 1 compares the portfolio data for off-campus housing between a portfolio of 45 schools and an additional two schools — School A and School B — to demonstrate the variance found between parental income levels at various types of public universities. As comparison properties, School A and School B are newer mid-rise assets, proximate to campus with full amenity packages. These properties are not entirely comparable to the portfolio properties, but are representative of the range of properties and the price differences that exist among student housing properties in the market today.

A recurring question the student housing industry seeks to understand is the relationship and income differentials between: (i) in-state students and (ii) out-of-state plus international students. Logic suggests that out-of-state students who often pay three times the in-state tuition rate, and international students who pay even more, have a greater ability to afford off-campus student housing. The data in Exhibit 2 supported this notion as guarantor levels on average were $132,000 for out-of-state students and $119,000 for in-state students. Out-of-state students

Exhibit 1: Public university income and student housing rental data

2018/19 school year	School A	School B	Portfolio (45)
Annual average guarantor income*	$510,680	$294,600	$122,450
Median family income at school**	$111,000	$119,000	$92,460
Purpose-built monthly rent (4X4 unit)*	$1,300	$750	$506

* *Harrison Street data.*
** *Opportunity Insights 2017 study on median family income at U.S. universities.*

Source: Harrison Street.

Exhibit 2: Guarantor levels for in-state and out-of-state students

Student status	Leases	Average guarantor income	Median guarantor income
In-state	18,200	$119,000	$68,000
Out-of-state	5,300	$132,000	$78,000
Total	**23,500**	**$122,000**	**$70,300**

Source: Harrison Street.

comprised approximately 22% of the total tenants across the portfolio.

One final note was the composition of international students in the portfolio. They came from a surprisingly diverse set of 82 different countries and made up approximately 6% of the portfolio. Chinese students comprised 61% of all international students (they comprise about 50% of students at all U.S. universities), followed by Saudi Arabia (8%), South Korea (6%), and India (5%). That 6% international students comprise 6% of the portfolio is consistent with the 5% overall U.S. higher education international student enrollment figures.

Conclusions

The data demonstrates that off-campus, purpose-built student housing spans all income levels and is not just for the affluent, as it provides a viable housing alternative to on-campus student housing and other off-campus housing alternatives.

In most cases the higher the guarantor incomes levels at the portfolio properties, the more student tenants were able to rent higher priced units.

We found that guarantor income levels at the portfolio properties generally reflected the parental income levels that would be representative at these types of more moderately priced properties, compared to the higher priced properties in School A and School B that had significantly higher guarantor income levels.

Out-of-state parents showed higher guarantor income levels which is consistent with the fact that they are already paying much more in tuition than their in-state peers.

We were moderately surprised to find that approximately 300 residents or 1% of the portfolio residents had annual qualifying incomes of more than $1 million. These higher incomes were widely distributed across schools and geographies, so no state or region claimed an abundance of these wealthy people. While the incomes seemed a bit out of place, it is not that unusual as most students want to live with friends and do not always care to be in the best or most expensive property on campus.

We have been analyzing this type of data for several years utilizing guarantor income data and student/parent origin data to compare to the all-in costs of attending various institutions to determine the potential student housing assets possess to attract different types of student. This data helps us guide our investment process and is one of many tools utilized to shape our student housing investment strategy. ◆

Thomas Errath is Director of Research and Strategy at Harrison Street.

Driving asset value *during a time of* economic CHANGE

Actionable data improves bottom lines, client outcomes, and energy efficiency.

By Brenden Millstein, Carbon Lighthouse

"For the times, they are a-changin'," Bob Dylan first famously sang decades ago, and he might as well have been talking about today's commercial real estate landscape. The risks and rewards of doing business have never been more uncertain, with new business models and competition from companies like WeWork; the widespread use of innovative technology; changing tenant and investor expectations; a potential economic downturn combined with record high asset prices; and even billion-dollar climate impacts.

Welcome to the era of "business as unusual."

And yet, the commercial real estate industry historically has struggled to keep up with the fast pace of change, according to Deloitte's *2019 Commercial Real Estate Industry Outlook*.[1] To gain a competitive advantage, firms need to learn to take the "right risks." As Dylan's song suggests, the present will soon leave behind those living in the past — and it's always better to be an agent rather than a casualty of change.

Amid such uncertainty, it can be tough to know which actions to take.

[1] Deloitte, *2019 Commercial Real Estate Industry Outlook.*
[2] Madison Gas & Electric Company, *Managing Energy Costs in Office Buildings.*
[3] Energy.gov, *About the Commercial Buildings Integration Program.*
[4] Sara Neff at TEDx, *Erected Dysfunction: Our Buildings Hurt Us, But They Don't Have To.*

Faced with the impossible task of predicting the unpredictable, firms are still on the hook for boosting NOI and exit values. And while clairvoyance remains unattainable, the predictive power of actionable data analytics might be the next best thing. Actionable data enables firms to move with agility to adopt the new technologies which drive value and make assets "future ready."

What is actionable data?

Both action and inaction can be equally risky for an investment manager. The "fail early, fast, and often strategy" is a product of start-ups without real assets or billion-dollar portfolios, and not being able to accurately assess risk. That's why many turn to data to help inform decision-making. Indeed, the term "big data" has become a buzzword of sorts with the widening availability of real-time, comprehensive data.

But the wide availability of data can both aid and impede action — too much or little of it can be equally paralyzing. That's why it's better to focus on collecting "actionable" data. In the context of commercial real estate, actionable data simply is information which can easily be paired with an action that drives value. Actionable data allows us to understand a building as the complex ecosystem it is. This kind of data empowers investment managers to uncover hidden value in assets which they otherwise might have missed.

In today's changing market, actionable data can drive net operating income — improving property performance and potential exit value — while improving tenant experience. All of this allows investment managers to take the "right risks" to reap calculated rewards.

Boosting NOI with data-driven decisions

When actionable data enables investment managers to look at a building more holistically, new sources of value appear. Take energy consumption, for example, which accounts for nearly 29% of operating expenses for the average U.S. office building.[2] Energy also is one of the fastest-growing costs for hotels, according to U.S. Environmental Protection Agency's ENERGY STAR program. Meanwhile, some 30% of the energy used in commercial buildings is wasted.[3] While many may think of energy consumption as a cost sink, actionable data can turn it into a source of financial value.

At Carbon Lighthouse, we regularly deliver 10% to 30% energy savings in buildings with central HVAC (heating, ventilation, and air conditioning) systems by using actionable data analytics to tap efficiency reserves — the building's wasted energy. Through this ongoing service, we can guarantee the real dollar value of those savings. Those energy savings can re-value a building and bring in better refinancing terms to fund other investments needed to remain competitive.

As an example, guaranteed annual savings of $100,000 in energy spend, considering an average cap rate of 5%, could increase asset value by $2 million at disposition. To date, we've worked in over 600 buildings across the U.S., helping organizations such as Tesla Motors, A&B Properties, Kilroy Realty, and Ohana Real Estate Investors turn energy waste into a source of guaranteed revenue.

As Carbon Lighthouse client Sara Neff, senior vice president at Kilroy Realty recently said during a TEDx event: "If you aren't asking about energy efficiency, you're just taking your wallet and throwing it on the ground."[4]

Anticipating and adjusting to tenant preferences

Actionable data also can help investment managers adapt buildings to changing tenant preferences and to anticipate tenant needs within the context of mounting climate impacts. Whether it is the recent polar vortex hitting Chicago and other areas of the Midwest or 2018's record heat waves across cities in North

Tesla Motors

With a shared mission to move the world toward greater sustainability, we partnered with Tesla Motors to help it turn energy waste into guaranteed profit at its mixed-use office, industrial, and R&D headquarters — home to their core engineering group, the Dyna Lab, for powertrain testing and battery testing.

Our team not only exceeded predicted savings with exceptional ROI, but also demonstrated how Carbon Lighthouse's sensors and engineering processes could uncover hidden savings that the BMS, or competing energy services, simply could not.

This was a top-of-the-line new build that already had three consultants evaluate its energy performance. Yet Carbon Lighthouse still was able to find $1.7 million in savings.

After completing implementation, the building's use completely changed — from a lab space to mixed-use office. However, through our ongoing monitoring, we were able to maintain the savings despite the change in building use and occupancy.

[5] Munich Re, *The Natural Disasters of 2018 in Figures.*

America, the pressure to maintain tenant comfort has never been higher.

Meanwhile, climate change is impacting the wider economy. Munich Re recently released a report which found climate-related disasters in 2018 inflicting $160 billion of losses worldwide, of which only half was insured.[5] Also, entities like S&P Global Ratings have started to include environmental, social, and governance (ESG) sections within their issuer credit rating reports on corporate entities.

The most immediate bottom line impact of extreme environmental conditions is increased operational costs to ensure that HVAC and other building systems keep up with the higher strain. It might be a lot hotter or colder outside, but tenants are going to expect the same level of comfort inside the building. Actionable data helps investment managers both anticipate and respond to these tenant demands quickly and painlessly. The necessary actions can be tied to the data. In this way, investment managers can use the principles of capitalism to save the planet while boosting the bottom line.

Better start swimmin'

Dylan's song continues: "Then you better start swimmin', or you'll sink like a stone." During times of great change, the biggest risk is being unable to move deliberately and nimbly. Actionable data is the great unlock because it allows us to pair new information with action to move forward rather than getting caught dead in the water.

Don't fear the dynamism of today's market — embrace it as a new source of value. Whether it's responding to a market downturn, new competition, or climate impacts, actionable data shines the way to a brighter future. ◆

Brenden Millstein is CEO and Co-founder of Carbon Lighthouse.

Tiffany Gherlone

Head of Research and Strategy — U.S.
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Interviewed by Wanching Leong

Date joined: March 2007.

Background: B.S. and M.B.A. in Real Estate, University of Connecticut School of Business. D.B.A. Candidate in Finance, Sacred Heart University. GMAC Real Estate, Waddell & Reed.

Current role: I work for the Global Head of Research and Strategy and for the head of the U.S. arm of the Real Estate & Private Markets group. We have a team of six in the U.S. Half of the team focuses on cross-market analysis and another half focuses on modeling and performance measurement. I oversee those functions from a research and strategy perspective, and work closely with clients and consultants about our market expectations. I host quarterly outlook calls and present our views at client conference meetings.

Best part of the job: I enjoy looking through trends and applying new and different techniques to the data. I try to interpret what the numbers and trends mean. We don't just create a table of numbers, but rather answer the question of, 'What do we do with this and what impact does it have? How does it change the way we're thinking about an investment?'

> *"All of our research is created under the theme of 'Research towards strategy'."*

Worst part of the job: Ingrained into the real estate culture is a requirement that most job applicants be deal people. However, my experience is on the research and strategy side, which complements underwriting or operations. This difference in perspective has helped me thrive in my current role, although it has been a challenge to push the boundaries of an established comfort zone.

What are you spending your time on: I help the team prioritize our projects. I decide what we are going to do internally versus what we're going to need an outside vendor to help us with. If I am not with my team, I am working directly with our portfolio group talking about strategy. The majority of my external-facing time is spent mostly with clients and consultants.

Email or phone call: I prefer email. I don't find the phone to be very effective, which is counterintuitive.

What could the industry be doing better: I believe as an industry we are lacking in training and education. All of the information that I have accumulated over the years, every stumble I make on the machine learning side or when applying more statistical models to our complicated data set, sits with me. When I retire, it retires with me. I haven't found a meaningful designation of study for people who are new to the real estate investment management side, or a way for me to pass on knowledge of the role and industry more broadly.

Something you've learned that has been useful in your career: I have challenged myself to make my message as succinct as possible. People want a clear and succinct answer, and they want me to get to the point as quickly as possible. As somebody who speaks both internally and externally, I aim to tailor my message to the audience and influence the way people invest and conduct business.

What's kept your interest about the industry: I am most excited about applying emerging techniques such as clustering algorithms and working with data sets, which were limited until only a few years ago. Whether it is our internal data or benchmarking, we are, in the private real estate market, creating new, emerging research. We now have different ways to analyze the numbers. What do they mean? How does that influence how we behave? What actionable investment strategies can we discern from machine learning algorithms from techniques that were traditionally applied in modern portfolios or from traditional finance? I'm keeping a close focus on new techniques and data sets. ◆

DIGITAL DRIVERS *in core* European real estate INVESTING

Demographics, globalization, innovation, and technology offer opportunities to investors in both the short term and longer run.

By Indraneel Karlekar and Rachel Shone,
Principal Real Estate Investors

The global economy ended 2018 in the crosscurrents of volatility as capital markets signaled increasing concern on slowing growth and some economic indicators moderated in the final quarter. Trade tensions between the U.S. and China, tighter monetary policies, and lower oil prices have added to uncertainty in the capital markets.

However, underlying economic data globally remain reasonably constructive. From an investment perspective, an era of historically low monetary policy rates worldwide has helped reflate risk assets, including commercial real estate. With a low correlation to global equities, private real estate, both in the U.S. and Europe, has performed consistently over the medium- and longer-terms (Exhibit 1).

The recent bout of volatility has hit publicly listed real estate investors as stocks are trading at discounts. This suggests that core private equity real estate performance is likely to moderate globally. The good news is that real estate cycles are localized, and even a downturn can offer investors with a global appetite a diverse set of opportunities.

> “In order to outperform, investors need to identify and invest alongside drivers of real estate demand not only over the short term, but also over a longer time horizon.”

As we survey the commercial real estate landscape over the coming years, we expect that Europe will offer interesting opportunities for core real estate investors based on the twin tailwinds of accommodative capital markets and occupier demand strength. Although the European Central Bank (ECB) has ended its quantitative easing program, interest rates in the eurozone are forecast to stay historically low. Therefore, debt should remain accretive to core real estate. From a tenant demand perspective, Europe’s economy has been slower to recover from the Global Financial Crisis (for example, when compared with the U.S.), but most data indicators suggest that it will be strong enough to lead to a healthy absorption of commercial real estate over the next 12 to 18 months.

In this mature cycle, real estate value creation is going to be market and asset specific, and increasingly tied to the ability to generate rent growth. In order to outperform, investors need to identify and invest alongside drivers of real estate demand not only over the short term, but also over a longer time horizon.

In this article, we highlight a set of long-term drivers that can help investors identify opportunities for real estate investment across different markets and property types. We call these “DIGITAL” drivers centered on themes relating to demographics, globalization, innovation, and technology for long-term investment.

In the short term, we are optimistic about core strategies in eurozone markets, ex-U.K. Due to Brexit uncertainty, high prices, and occupier demand concerns, we feel that U.K. core real estate is a more challenging prospect relative to the eurozone and, thus, we advocate a very cautious stance. However, we are confident London will hold many characteristics that define our DIGITAL growth drivers and retain its preeminence as a global real estate occupier and investment market in the longer term.

Exhibit 1: Global performance of selected asset classes

	1-year total	3-year total	5-year total	10-year total	15-year total	17-year TR correlation with global equities
Eurozone private real estate*	9.5%	8.7%	7.2%	4.9%	6.1%	0.157
U.S. private real estate	6.7%	7.2%	9.4%	7.5%	8.9%	0.133
Global real estate securities	-4.7%	3.7%	5.3%	10.5%	7.6%	0.813
Global equities	-8.7%	6.7%	5.0%	10.2%	6.7%	1.000
Global bonds	-1.2%	2.7%	1.1%	2.5%	3.3%	0.005

Sources: NCREIF, MSCI/IPD, FTSE EPRA/NAREIT, MSCI, Barclays, Bloomberg, December 2018. Eurozone private real estate — MSCI Eurozone Annual Property Index; U.S. private real estate — NCREIF NPI Q4 2018; Global real estate securities — FTSE EPRA/NAREIT Global REIT Index; Global equities — MSCI/IPD Global Equities Index; Global bonds — Bloomberg Barclays Global Aggregate Index. Total return correlation from 2001–2017. *Eurozone data as of December 2017.

Market outlook

Capital markets outlook

With the ECB signaling its desire for an accommodative monetary policy environment, we are confident that interest rates will stay low in Europe over the short term. We expect that the

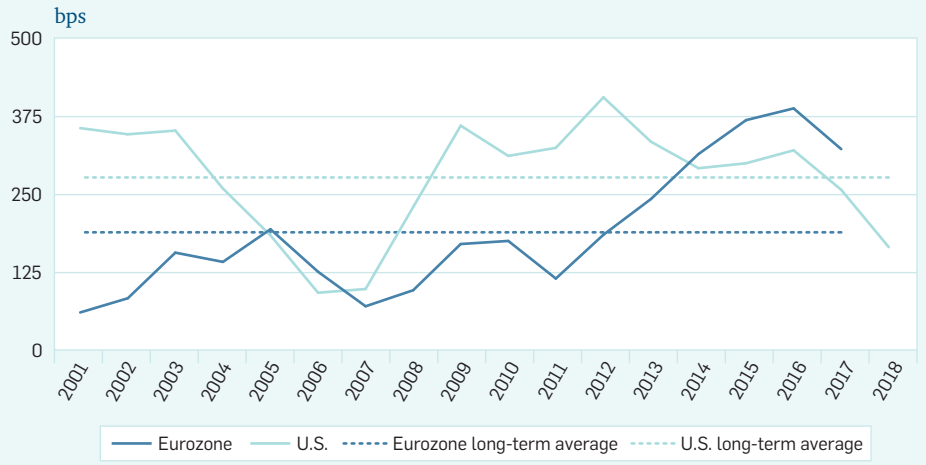
short end of the yield curve will stay well anchored, thus leading to a modestly steeper yield curve. Consequently, the cost of debt should not materially increase over the next 12 to 18 months if the ECB is successful in keeping interest rate expectations low. Eurozone ten-year bond yields are likely range bound from 0.1% to 0.5% over the next 12 months. Risk premia — the spread between property and bond yields — should also remain quite sticky (Exhibit 2). If yields on long bonds stay sticky, property yields should also stay relatively unchanged and, thus, keep in place an acceptable risk premium.

Real estate outlook

In the eurozone, economic growth and demographic change are expected to drive demand for commercial real estate, especially office and industrial properties. The supply response through much of the current cycle has been muted, allowing landlords to maintain some pricing power in the market and to set up favorable conditions for rent inflation over the next 12 to 18 months (Exhibit 3).

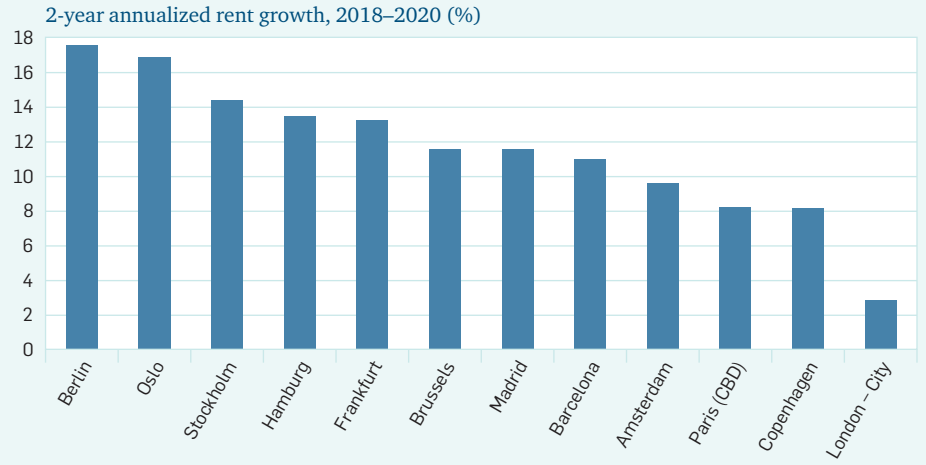
- **Office:** Office yields are near historic lows, with slight yield compression still possible in selected markets. However, many markets are expected to witness rental growth because of strong occupier demand. Office occupier markets appear strong, with tighter labor markets and sustained employment growth. The introduction of new supply appears limited due to restrictions against densification or alteration of existing building infrastructure in many historic urban core locations.
- **Retail:** Stronger wage growth and higher employment should increase consumer spending in support of retail. Additionally, the delayed impact of depressed oil prices should boost real incomes. Tourism continues to prop up high street retail in select cities, but an overall global slowdown could reverse their fortunes. Structural changes in consumption through online shopping continue to shift the retail environment. We note a distinct difference between continental European and U.K. retail. The latter presents similar challenges to and characteristics as the U.S. retail market.
- **Industrial:** The demand for logistics and warehouse assets continues to be robust due to e-commerce, while growth in last-mile delivery has led to a surge of transactions and

Exhibit 2: Cap rate spread to 10-year bonds



Source: MSCI-IPD, NCREIF, U.S. Federal Reserve, European Central Bank, Moody's Analytics, Principal Real Estate Investors, January 2019. Eurozone data as of 2017.

Exhibit 3: European cities CBD office outlook



Source: CBRE-EA, CBRE-ERIX, Q3 2018 Principal Real Estate Investors.

> With European urban centers expecting an increase of 70 million people over the next 30 years, expansion in selected major cities will drive demand.

development in urban and semi-urban areas. Yields have fallen and rent growth varies between markets. However, assets near major nodal hubs continue to see strong increases in asking rates. The U.K. is an especially strong logistics market given the rapid adoption and penetration of e-commerce. Take-up has increased in most logistics transport corridors and, while expansion of new supply always remains an issue in the industrial sector, a lack of available land in the urban periphery continues to constrain additional supply.

DIGITAL opportunities in Europe

The economic and capital market outlook suggests that core European real estate should remain a relatively attractive proposition for real estate investors. To help investors identify markets and sectors that may generate stronger relative performance, we have identified some key secular DIGITAL demand drivers of growth that should facilitate an active long-term investment strategy. These drivers revolve around demographics, infrastructure, globalization, and innovation-driven industries.

In particular, we believe that logistics and for-rent residential assets are likely to benefit strongly from DIGITAL drivers. The structural change in retail from storefronts to e-commerce and increasing globalization, with its integrated supply chain models, are necessitating the need for modern warehouse space. For-rent apartments have and will continue to see strong demand from the shifting needs of an aging population, as well as from a young, growing workforce that is generating different sets of opportunities for investors across the risk spectrum.

Changing demographics offer a variety of investment opportunities

Europe offers a variety of demographically driven real estate investment opportunities. Its well-documented aging population offers multi-faceted housing and care-related opportunities, but market selection is key given the divergence of healthcare coverage as well as affordability metrics across Europe. Markets such as Germany, with its well-established healthcare system and wealthy aging population willing to pay for private care, is where opportunities are likely to arise.

At the other end of the spectrum, youth employment in emerging technology and digital-based industries are offering investors opportunities in major metropolitan areas that are undergoing strong demographics growth. Millennials and Generation Z are spending more than ever before. This has major implications for retail properties. With European urban centers expecting an increase of 70 million people over the next 30 years, expansion in selected major cities will drive demand across a variety of asset types (Exhibit 4).

Infrastructure

Europe has recognized the importance of infrastructure spending as a catalyst for long-term economic development and recognition is mounting that a significant amount of infrastructure spending is required to support and grow the innovation economy. Several initiatives across the continent are underway. Investment in high-demand areas, such as renewable energy, transport, and communications, are vital to ensuring Europe's internal market remains dynamic.

One example of a forward-looking initiative is the Grand Paris plan. The plan will feature a new transportation network of over 205km comprised of four new metro lines, including one encircling Paris, as well as the extension of existing lines. Project phasing from 2017–2030 involves the construction of 57 new stations, with the new network reaching a total of 72 stations which would increase and

Exhibit 4: Demographic cohorts offer a variety of real estate opportunities

	Europe		United States		
	Population	%	Population	%	Opportunities
Silent generation (1928–1945)	37.3m	10.9%	25.7m	7.9%	Assisted living, care housing
Baby boomers (1946–1964)	78.2m	22.9%	73.5m	22.6%	Independent senior living
Generation X (1965–1980)	79.2m	23.2%	61.9m	19.0%	Logistics, rental, residential
Millennials (1981–1997)	70.0m	20.5%	76.2m	23.4%	Creative, flexible office, rental residential
Generation Z (1998–present)	73.4m	21.6%	82.2m	25.2%	Residential, coworking office, omni-channel retail

Source: U.S. Census Bureau, Moody's Analytics, Eurostat, Principal Real Estate Investors, January 2019.

Exhibit 5: Many cities are developing specialist innovation and technology ecosystems — global start-up ecosystem rankings

	North America	Europe
Artificial intelligence	Seattle, Silicon Valley, Austin, Houston, Atlanta, Miami, New York, Boston, Montreal, Chicago	Helsinki, London, Frankfurt, Malta
Blockchain	Silicon Valley, New York	London, Berlin, Zug, Malta, Gibraltar
Advanced manufacturing and robotics	Seattle, Silicon Valley, Houston, New York, Boston, Toronto, Montreal	Berlin, Munich
Agtech	Silicon Valley, Boston	Amsterdam
Fintech	Silicon Valley, Chicago, Atlanta, New York	Paris, Amsterdam, Stockholm, Berlin, Frankfurt, London, Zug, Munich, Malta
Health and life sciences	Vancouver, Edmonton, Toronto, Boston, New York, Silicon Valley, Phoenix, Austin, Houston, Tampa Bay	London, Berlin, Helsinki, Munich, Amsterdam, Paris, Barcelona
Cybersecurity	Toronto, Silicon Valley, Phoenix, Boston, New York, Ottawa	The Hague, Berlin, Prague, Frankfurt
Cleantech	Vancouver, Seattle, Silicon Valley, Los Angeles, Austin, Boston	Stockholm
Edtech	Silcon Valley, Phoenix, Boston, New York	Paris
Gaming	Vancouver, Silicon Valley, Los Angeles, Montreal, Quebec City	Stockholm, Helsinki, London, Barcelona, Malta
Adtech	Silicon Valley, Los Angeles, Phoenix, Atlanta, Tampa Bay, Chicago, New York	London

Source: Startup Genome, Global Startup Ecosystem Report, 2018.

diversify the commercial real estate footprint across Paris.

Globalization

The movement of goods, services, and people around the world has, and will remain, a key investment theme for investors looking to invest in Europe, whether logistics, office, or residential properties. Despite the recent backlash on trade, many European cities are global hubs of trade, capital, and innovation. Europe is also uniquely positioned as it is close to major energy-producing markets, which enhances its role as a facilitator of trade and services. Looking forward, the movement of capital and labor will remain a key driver of growth in the future. Europe, with its high value-added industries such as aerospace technology, artificial intelligence, and blockchain, will stand to benefit.

Innovation and technology are growth drivers of the future

Innovation and technology-driven industries are shaping the future of the world economy. Several European countries are becoming homes to ecosystems where such growth is occurring. A couple of decades ago, technology and innovation hubs were limited to select markets in North America and Europe. This is no longer the case, with many cities emerging as homes to a growing array of technology-driven industries (Exhibit 5).

Europe, with its highly skilled workforces along with centers of high value-add manufacturing excellence, is at the heart of this global economy. University cities such as Cambridge in the U.K., attracting R&D capital from both the private and public sectors, have produced innovation hubs that foster and cultivate the exchange of information and knowledge. The growth of these locations is driving an increased need for a diverse set of supporting spaces ranging from student housing to residential properties and office space.

Conclusion

Volatility and late-cycle dynamics are making core real estate performance more challenging, but local real estate cycles can offer investors opportunities across the risk/reward spectrum. Europe, with its favorable backdrop of low interest rates and reasonable demand conditions, is one core area in which investors should pay attention. Investors should consider harnessing some of the DIGITAL drivers identified in this article to identify short-term investment opportunities as well as plan strategic initiatives for the long run. ◆

Indraneel Karlekar, Ph.D., is Senior Managing Director, Global Head of Research & Strategy at Principal Real Estate Investors, the dedicated real estate unit of Principal Global Investors.

Rachel Peirce Shone joined Principal in 2018 as a Research Manager focused on European markets based in London.

Lauren Young

Partner, Chief Risk Officer, and Chief Compliance Officer
PCCP

Interviewed by Wanching Leong

> *I came to a career in real estate through an interest in urban economics and urban development.*

Date joined: July 2003.

Background: A.B. in Economics, Harvard University. M.B.A., Stanford University Graduate School of Business. Mercer Management Consulting, Philips.

Current role: On the risk side, I oversee risk management, oversee our insurance program for our assets, and work with the deal team on due diligence in making sure we identify and mitigate risks during the acquisition process. On the compliance side, I oversee our compliance program and all regulatory compliance matters. As a partner, I work with my other partners on all sorts of firm-wide management issues, including training, culture, and engagement.

Best part of the job: Definitely the variety of responsibilities, the people I interact with, and the problem solving. With risk and compliance, there's always some sort of nut to crack and I get to work with the deal team on risk issues at the property level. I get to look at new investment vehicles and regulatory puzzles that we need to solve.

Worst part of the job: Not having enough time in the day. There's always some new problem and sometimes they come in at five or six o'clock. There's not enough time in the day to get to everything.

What are you spending your time on: It's two things right now. One area is our insurance program. With some of the catastrophes that happened a couple of years ago and the insurance market trends, we're spending a lot more time looking at our insurance program and making sure that it fits with our portfolio. And then the other area is regulatory compliance, making sure as we grow that our program works with that growth.

Email or phone call: From the perspective of a compliance officer, I would say phone calls are always better. They're more personal too. There's a lot lost in emails. It's always best to connect with people on the phone.

What could the industry be doing better: I think the industry has made great strides in becoming more diverse but there is always room for more diversity. It's not unique to our industry, and it's not simply a pipeline issue. The second area is risk and compliance. Compliance isn't always the team that the investment side or the marketing side brings in early. But the earlier that compliance is brought to the table — as soon as the team starts thinking about what is the product, who is the target, and how might it be structured — often, the simpler the final structure from a legal and compliance perspective — I think the process could be much more efficient for the entire team.

Something you've learned that has been useful in your career: Always be curious. You never know when you meet someone how they may help your understanding of a deal or a problem. Everything is additive, so just be open.

What's kept your interest about the industry: Everything is always changing. There are no two deals or environments that are the same. You could do an office deal today and you might have seen that same office deal say five years ago, but everything in the industry has changed — who is providing the capital, who is looking at buying it. Real estate itself, as a product, is interesting, and then the capital markets environment around the product changes. So you have both the underlying dynamics of the product, and then the capital environment in which it is operating, and those two things have their own cycles and dynamics that interact. ◆

Tools for managing Dry Powder

Investors with capital ready to be put to use should look to technology to help them make smart bets.

By Robert Teel,
Yardi Systems

As the real estate investment sector drives forward in 2019, funding isn't an issue; it's finding opportunities that put capital to the most productive use. What factors will influence investment decisions in 2019? What tools can investors use to identify and gain maximum value for their dry powder?

Of course, nearly all "good" deals are already consummated: the easy ones, the no-brainers, and the can't-misses. Foreclosed homes, for example, have been scooped up by a new asset class of single-family homes and in many cases capitalized in the public market in the form of new REITs. Multifamily assets have reached a cap rate (averaging in the mid-5% range for U.S. apartment properties since 2017) that makes construction and redevelopment the only option for a reasonable IRR. Meanwhile, commercial logistics and urban office assets appear to be tapped out.

Tariff uncertainty

And who knows what trade turbulence will do to real estate investment? In 2018, the Trump Administration announced plans for tariffs on $250 billion worth of Chinese goods, and subsequent talk of a looming trade war sparked widespread unease.

Tariffs' greatest impact to the commercial real estate industry to date has been on the construction sector. Rising materials costs have trimmed development profits and coinciding rises in land and labor costs are further exacerbating the problem. Domestic steel prices increased in early 2018, although they started to drop in November.

While the tariffs didn't have a huge effect on the U.S. economy as a whole in 2018, their impact on the industrial and retail sectors largely remains to be seen.

Tax law's multiple implications

Real estate investors looking to deploy dry powder also must keep an eye on tax policy. The Tax Cut and Jobs Act of 2017 created a short-term stimulus for the U.S. economy, although growth will likely slow this year and next as the effect fades. Renters received a bonus in the form of lower taxes, increasing their

[1] National Real Estate Investor, *Private Equity Real Estate Funds Battle Challenges to Deploy Capital*, November 21, 2018.

spending power and ability to pay higher rents. National multifamily rents increased by 3.2% in 2018 and commercial real estate generally remained strong.

The opportunity zone provision of the law could have a big impact on commercial real estate. It allows investors to defer or avoid taxes on capital gains from any investment sale, including stocks, bonds, or real estate, if the money is reinvested in one of 8,700 zones designated by the U.S. Treasury Department. The initiative aims to generate economic activity in commonly overlooked areas and could draw capital from non-traditional sources such as high-net-worth individuals, family offices, and endowments, and spur revitalization in blighted urban areas and tertiary markets. More than a dozen big names, including PNC Bank and Goldman Sachs, have announced fundraising plans.

The law's cap on state and local tax deductions is certain to impact real estate markets. Existing migration patterns will likely accelerate, benefiting low-tax states such as Florida, Nevada, Texas, and Washington, and hurting higher-tax states like California, New York, Illinois, Massachusetts, Maryland, and New Jersey.

Big players stay active

So what is emerging as the best strategy for investors with dry powder — hold for the next recession or stay in the game?

One can take a cue from the big money currently sitting on the sidelines in the form of pension plans, sovereign wealth, and insurance company funds. That cash might be idle now, but not for long because this category of investment comes with a mandate that it *must* be put to work. While high-net-worth individuals and nimble private equity and venture capital players can exercise prudence and pull back at will, like when stock markets tumbled in the fourth quarter of 2018, institutional money is different.

Also consider that:

- Institutions continue to increase their allocation of capital to real estate. Global institutional investors' average weighted target allocation to real estate is expected to tick up in 2019 to 10.6% from 10.4% in 2018, according to a survey administered by Cornell University's Baker Program in Real Estate and real estate advisor Hodes Weill & Associates. In 2017, this figure was 10.1%. By comparison, target allocations ranged from 9% to 10% for institutional investors between 2011 and 2015, and actual allocations rose from 6.7% to 8.5% in that period, according to McKinsey & Company.
- Institutions don't move as quickly as individual investors when pulling back investment capital. Trillion-dollar portfolios can't turn on a dime to restrain capital in the face of market volatility.
- Bets are already placed. Money poured into private equity real estate at record rates in 2018 before market volatility crept in and the specter of ultra-low cap rates chilled institutional real estate commitments. National Real Estate Investor, citing data from research firm Preqin, reported in November 2018 that "the $70 billion in global capital inflow during the first half of 2018 is the largest amount raised since the global financial crisis,"[1] pushing the amount of dry powder in private equity real estate funds to a record high of $180 billion globally as of September 30, 2018. Some of those funds are being used to make loans that could deliver higher returns over the next five years than buying properties.


iStock.com/FilippoBacci

> “Investment managers with dry powder are wise to consider adopting tools that help track deals efficiently, identify opportunities quickly, enable confident acquisition, redevelopment, and disposition decisions — and bring capital from the sidelines to the field, where the real players are.”

It’s clear that a lot of private equity real estate funds will be in play this year and beyond. But how can fund managers serve their investors’ best interests in this environment? Gut instinct, deal acumen, and innate market knowledge aren’t enough to find the best returns.

The technology edge

Successfully deploying dry powder depends on compiling and analyzing the full sweep of data comprising investment opportunities such as rent and expense data, loan abstracts, maturing debt by property and owner, asset ratings, sales data and valuation tracking, and occupancy trends. Analysis at this level requires technology capable of processing information from all market sources to reveal the ideal targets and timing for asset acquisitions, renovations, and sales.

That’s where advanced software dedicated to business development and customer relationship management come in. Such systems can assimilate all property prospecting, preliminary underwriting, and asset management information within a single platform then compile the data into market analysis and reports, including metropolitan statistical area trends that identify macro issues essential to positive results.

Armed with this information, fund managers seeking to identify real estate investment opportunities can:

- Evaluate pipelines and match deals with investors.
- Identify gaps between best-performing properties in a sub-region and their target properties.
- Uncover properties whose rents and expenses exceed the comp set.
- Tie capital calls to investment life cycle data.
- Auto-generate quarterly investor reports.
- Gauge an asset’s impact on the overall allocation of the fund, asset type threshold, and investment strategy.

Property performance impacts investment value

This kind of technology can also enhance asset value by driving new efficiency into property-level operations. For example, enabling online payments through a resident or tenant portal can drastically reduce open accounts receivable. Instituting electronic billing can cut about 75% of the cost of collecting and processing rents. Installing energy management systems can reduce the cost of operating heating, air conditioning, and ventilation systems without impacting tenant comfort. Automated construction management keep projects on time and on budget with real-time views of data across multiple capital projects. Coordinating all leasing processes and market intelligence activities can increase revenues with more efficient deal execution.

In short, automated compilation of fund-, property-, and tenant-level information in a single system delivers a competitive edge and drives faster, better-informed investment decisions. And if no attractive investment opportunities immediately arise, the next best option for dry powder might be storing it and focusing on maximizing current asset values while waiting for the right deal.

Success this year might entail doing more with fewer opportunities. That makes technology capable of automating investment accounting, deal management, property performance measurement, and investor reporting more important than ever. Investment managers with dry powder are wise to consider adopting tools that help track deals efficiently, identify opportunities quickly, enable confident acquisition, redevelopment, and disposition decisions — and bring capital from the sidelines to the field, where the real players are. ◆

Robert Teel is the Senior Vice President of Commercial and Investment Management at Yardi Systems.

The rise of ESG in real estate

Waiting on the sidelines may no longer be an option for real estate investors as our planet and our built environment are at risk.

By Jem Hudson,
State Street

In an attempt to spur action-oriented, multi-stakeholder dialogue, the World Economic Forum (WEF) released its Global Risks Report 2019 at its recent annual gathering of global leaders in Davos, Switzerland. For 2019, the report highlights environmental risks as some of the most critical, both in terms of likelihood to occur and their overall global impact.[1]

More specifically, according to WEF, environmental issues represent the top three global risks in terms of likelihood and are three of the top five global risks in terms of impact (Exhibit 1). The greatest environmental risks are linked to extreme weather events, failure of climate-change mitigation and adaptation, and natural disasters.

While climate change is more frequently discussed within the public equity and fixed income spaces, there is no question that environmental risks also present significant challenges, as well as opportunities, in real estate. To that end, we believe environmental factors will become an increasingly important consideration when making real estate investment decisions.

Environmental focus: A business opportunity?

So why should real estate investors increase their focus on environmental factors?

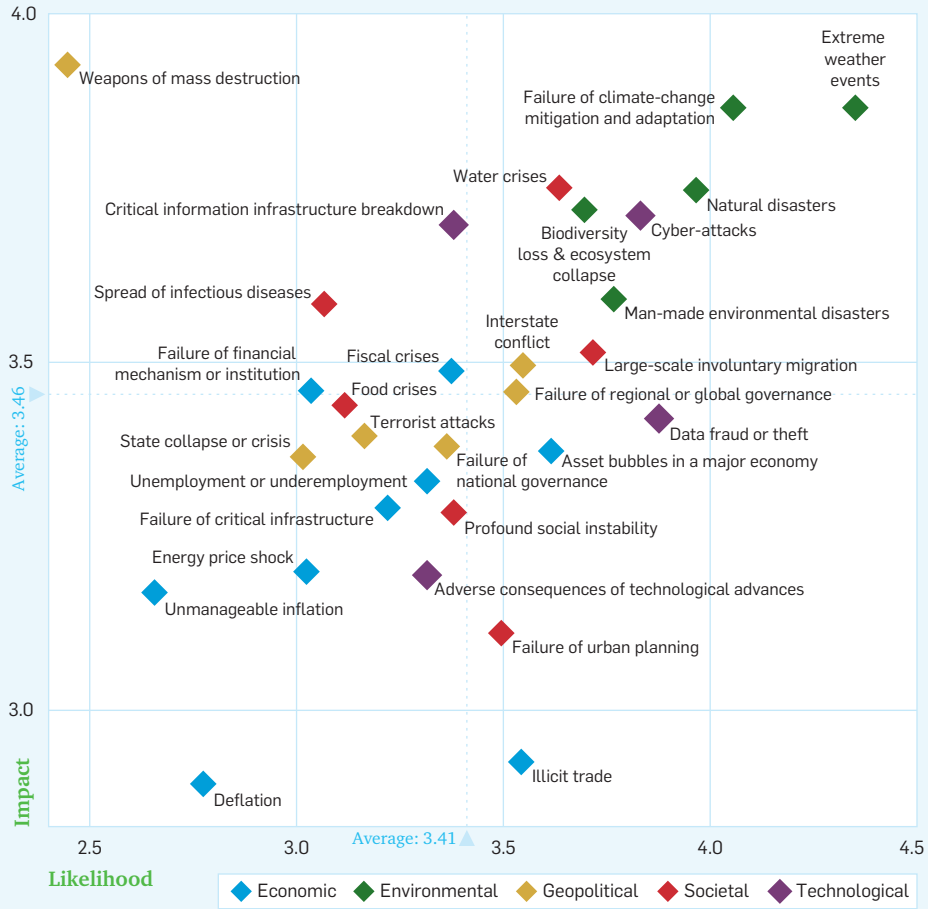
First, institutional investors are increasingly concerned about environmental issues in their asset allocation decisions. According to recent research by the United Nations-backed Principles for Responsible Investment (UN PRI), there has been a steady increase in environmentally focused real asset investments.[2] For example, between 2004–2009 pension fund CalPERS exceeded its energy reduction goal of 20% in its core real estate portfolio, and it continues to focus on further reductions. More recently, as part of a joint investor letter, New York State Common Retirement Fund reiterated its firm commitment to climate action.[3]

Second, cities around the U.S. are starting to pay closer attention to sustainability, with a particular emphasis on reducing the overall environmental impact of their buildings and infrastructure while simultaneously taking smart resiliency measures in anticipation of future risks. According to research by C40, a non-profit

[1] World Economic Forum, *The Global Risks Report 2019.*
[2] United Nations Principles for Responsible Investment, *How to Invest in the Low-Carbon Economy: An Institutional Investor's Guide.*
[3] Investors Call on World Leaders to Address Climate Change 'Ambition Gap'.
[4] NewClimate Institute, *Climate Opportunity: More Jobs; Better Health; Liveable Cities.*
[5] U.S. Green Building Council, *Why LEED Certification Matters to Your Bottom Line.*

> "Developing sustainable buildings is a major focus for top architects and designers, who are more likely to take on a large commercial project if it includes sustainability considerations."

Exhibit 1: The global risks landscape 2019



Source: The Global Risks Report 2019, World Economic Forum, 2019.

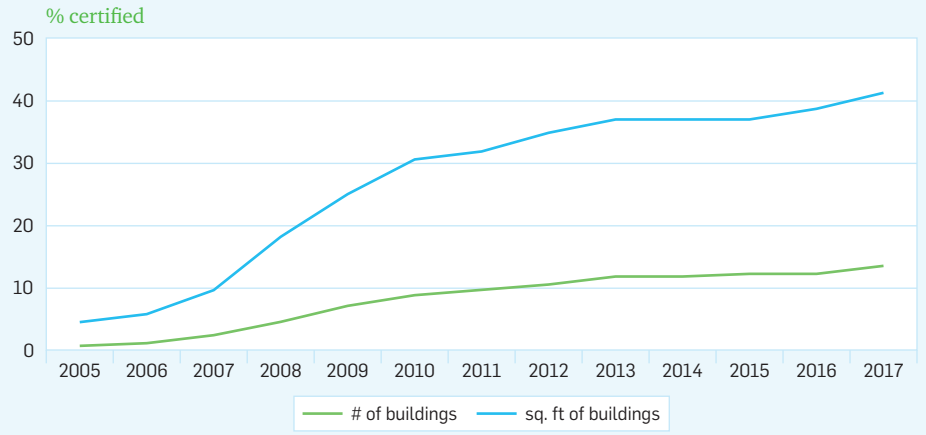
organization that connects the world's major cities in order to galvanize climate action, urban areas account for 73% of global greenhouse gas (GHG) emissions.[4] C40 also finds that efforts to address climate change can, in fact, lead to favorable outcomes for health and prosperity in large cities.

Third, as leading Fortune 500 companies and their peers continue to elevate their commitment to corporate sustainability from the strategic standpoint, there has been growing demand for LEED-certified office spaces. In particular, commercial real estate tenants increasingly view LEED certification as beneficial to their bottom line,[5] in part because it helps attract top talent, including millennials. In its annual *U.S. Green Building Adoption Index* report, CBRE notes that across the 30 largest U.S. office markets, about 4,700 buildings (41% of commercial space) have now been certified as "green" (Exhibit 2).

Fourth, developing sustainable buildings is a major focus for top architects and designers, who are more likely to take on a large commercial project if it includes sustainability considerations. For example, Harvard

[6] Harvard Graduate School of Design, *Harvard Center for Green Buildings and Cities unveils HouseZero.*
[7] State Street, Center for Applied Research, *The Investing Enlightenment: How Principle and Pragmatism Can Create Sustainable Value through ESG.*
[8] United Nations Principles for Responsible Investment, *ESG Engagement for Fixed Income Investors: Managing Risks, Enhancing Returns.*

Exhibit 2: Green Building Adoption Index



Source: U.S. Green Building Adoption Index 2018, CBRE.

University's Graduate School of Design recently announced the completion of its innovative pilot project, HouseZero. According to the press release, it represents a complete retrofitting of its headquarters into a "living-laboratory and an energy-positive prototype for ultra-efficiency."[6] Indeed, sustainability has steadily been making its way into all aspects of the design process.

ESG integration: From theory to practice

In State Street's recent research report *The Investing Enlightenment*, we provide guidance on the effective adoption of ESG integration practices within the broader investment management context.[7] Here we build on this guidance and take into account the unique challenges and opportunities that real estate investors face (Exhibit 3).

First, as is true for investors across all asset classes, it is important to prioritize those environmental, social, and governance (ESG) factors that are most **material** for a given investment. In general, material ESG factors are most likely to be aligned with the underlying business model and have significant top-line as well as bottom-line implications. Intelligent consideration of material ESG factors is often closely linked to critical strategic decisions and long-term strategic planning.

For real estate investors, according to the SASB (Sustainability Accounting Standards Board) materiality map, this means paying particularly close attention to energy management, water management, management of tenant sustainability impacts, and climate change adaptation when evaluating a real estate investment opportunity. Each of these areas includes several sub-topics that should be considered as part of the investment research process (Exhibit 4).

Exhibit 3: ESG integration in real estate investing

Source: State Street Center for Applied Research (CAR).

Based on the experience of State Street's direct real estate team, leasing efforts have benefitted from highlighting our properties' positive ESG attributes, including energy efficiency and lifestyle amenities, to today's environmentally savvy commercial and residential tenants. As part of potential acquisitions, State Street's direct real estate team evaluates opportunities to cost-effectively improve ESG factors at the properties.

Second, once an investment is made, it is critical to establish **dialogue** (in the ESG investing space typically referred to as "**engagement**") across all constituents involved in the ownership and operation of a given property to ensure ongoing focus on material ESG factors. While this kind of dialogue is typically seen in public equities, there is growing recognition of its relevance even in asset classes where shareholder vote is not possible (e.g., fixed income).[8]

As part of this multi-stakeholder dialogue, real estate investors and consultants will want to target a range of questions that are strategic in spirit and that aim to understand: (i) how material ESG factors are baked into key management decisions; (ii) what is the linkage between these factors and the given property's financial results; and (iii) how management is thinking about any future risks, such as extreme weather conditions and sea level rises.

For example, State Street's direct real estate team works closely with its buildings' development and operating partners as well as property managers to make responsible and cost-effective decisions about each building's overall

[9] Task Force on Climate-Related Financial Disclosures, *Implementing the Recommendations of the Task Force on Climate-Related Financial Disclosures.*

Exhibit 4: Real Estate Sustainability Accounting Standard (SASB Materiality Map)

Topic	Accounting metric
Energy management	Energy consumption data coverage as a percentage of total floor area, by property subsector.
	(1) Total energy consumed by portfolio area with data coverage, (2) percentage grid electricity, and (3) percentage renewable, by property subsector.
	Like-for-like percentage change in energy consumption for the portfolio area with data coverage, by property subsector.
	Percentage of eligible portfolio that (1) has an energy rating and (2) is certified to ENERGY STAR, by property subsector.
	Description of how building energy management considerations are integrated into property investment analysis and operational strategy.
Water management	Water withdrawal data coverage as a percentage of (1) total floor area and (2) floor area in regions with High or Extremely High Baseline Water Stress, by property subsector.
	(1) Total water withdrawn by portfolio area with data coverage and (2) percentage in regions with High or Extremely High Baseline Water Stress, by property subsector.
	Like-for-like percentage change in water withdrawn for portfolio area with data coverage, by property subsector.
	Description of water management risks and discussion of strategies and practices to mitigate those risks.
Management of tenant sustainability impacts	(1) Percentage of new leases that contain a cost recovery clause for resource efficiency-related capital improvements and (2) associated leased floor area, by property subsector.
	Percentage of tenants that are separately metered or sub-metered for (1) grid electricity consumption and (2) water withdrawals, by property subsector.
	Discussion of approach to measuring, incentivizing, and improving sustainability impacts of tenants.
Climate change adaptation	Area of properties located in 100-year flood zones, by property subsector.
	Description of climate change risk exposure analysis, degree of systematic portfolio exposure, and strategies for mitigating risks.

Source: Sustainable Accounting Standards, SASB.

sustainability profile and material ESG factors, from the selection of building materials to the operational practices.

Third, effective **measurement and reporting** of relevant ESG-related outcomes enables real estate investors to understand how their consideration of ESG factors drives investment returns while reducing environmental impact. Because real estate investments are tangible and their operating results are measurable, investors can easily track and report their ESG-related outcomes. This type of ESG measurement and reporting then enables closer management of material ESG risks over time.

For guidance on how to think about ESG measurement and reporting, it is useful to consider SASB's aforementioned materiality map. Since all four material ESG factors in the real estate space pertain to environmental considerations, it is also helpful to review reporting guidelines provided by the Task Force on Climate-Related Financial Disclosures, which include general cross-industry guidelines as well as sector-specific guidelines for real estate management and development.[9]

State Street's direct real estate team, for instance, has begun compiling data from its operating partners and property managers to assess the ESG profile of its portfolio. The goal is to identify ESG aspects of individual properties that help drive both improved sustainability and investment returns, and apply those best practices across the portfolio.

Beyond investing: How to protect our planet

Confronted with growing environmental risks, we all need to consider different avenues where we can have the greatest impact.

As we outline above, for real estate investors, this means taking into account material ESG factors in the investment research process, maintaining an active dialogue with key constituents about environmental issues, and reporting on ESG-related outcomes. But it also means reaching out to the broader community of leaders and practitioners regarding this issue.

Climate change mitigation requires close collaboration across a range of key stakeholders, and real estate investors have an important role to play in building critical relationships and catalyzing action.

Waiting on the sidelines may no longer be an option. Our planet and our built environment are at risk. ◆

Jem Hudson is Vice President and Senior Researcher at State Street's Center for Applied Research.

The COMEBACK kid: Brick-and-mortar retail

Far from dead, retail stores are transforming and evolving as they are joined by online compatriots in search of customer loyalty and retention.

By Scott G. Onufrey,
ALTO Real Estate Funds

Since mid-2017, headlines have been screaming reports of the retail apocalypse. Major news outlets competed to see who could more rapidly detail the imminent demise of brick-and-mortar stores in the advent of the e-commerce and Amazon era. This story became so ingrained in the U.S. that it has received the distinction of its own Wikipedia entry.

So how do we explain the following headlines:

It's the Golden Age of Traditional Retail, Not its End Days, *TechCrunch (Jan 2019)*

The Return of the Brick-and-Mortar Store, *Bloomberg (May 2018)*

The Future of Brick and Mortar: Enhancing the Customer Experience, *Forbes (Jan 2018)*

U.S. Holiday Retail Sales Are Strongest in Years, *The Wall Street Journal (Dec 2018)*

Retail Apocalypse Becomes Retail Euphoria, *Seeking Alpha (Dec 2017)*

While the retail apocalypse story has been told time and again, the resurgence of retail came on the back of robust financial conditions, growth in retail sales, high consumer confidence, and a sudden rush in household net. Retailers also benefited from the Tax Cuts and Jobs Act, which reduced tax rates for businesses and individuals for the 2018 fiscal year and hence boosted profits (Exhibit 1).

"While the retail apocalypse story has been told time and again, the resurgence of retail came on the back of robust financial conditions, growth in retail sales, high consumer confidence, and a sudden rush in household net."

iStock.com/abloknin

However, in order to thrive in the digital age and grow while digital disruption is at its peak, the industry needs to keep reinventing itself.

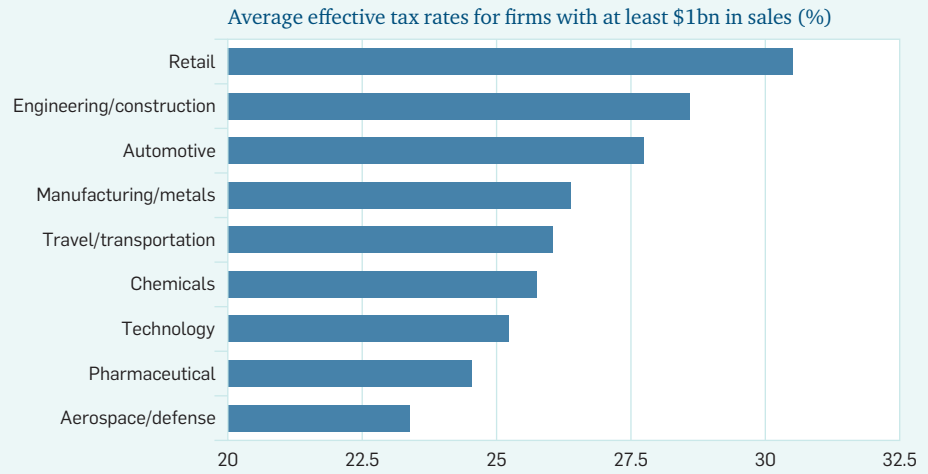
Evolving retail

The evolution process has begun. The fundamental truth that bankruptcies have been plaguing specific sectors within the industry, so much so that the retail sector is expected to die, has been conclusively refuted. Research conducted by the IHL Group showed that retailers had plans to open over 5,500 more stores in 2018. The report, *Debunking the Retail Apocalypse*, laid a viable foundation to the claim that the above-mentioned obituary was actually "fake news."

While U.S. retail sales continued their long-term annual growth rate of 5%, the industry is undergoing some fundamental changes. The common belief is that e-commerce is the catalyst, but retailers and market participants know there are other factors that have added to this instability. The main issues are the changing tastes and expectations of consumers, a trend toward off-price retail, and the downfall of the department stores. E-commerce is growing at a steady pace, but only 5% of all sales come from pure-play e-commerce vendors (Exhibit 2).

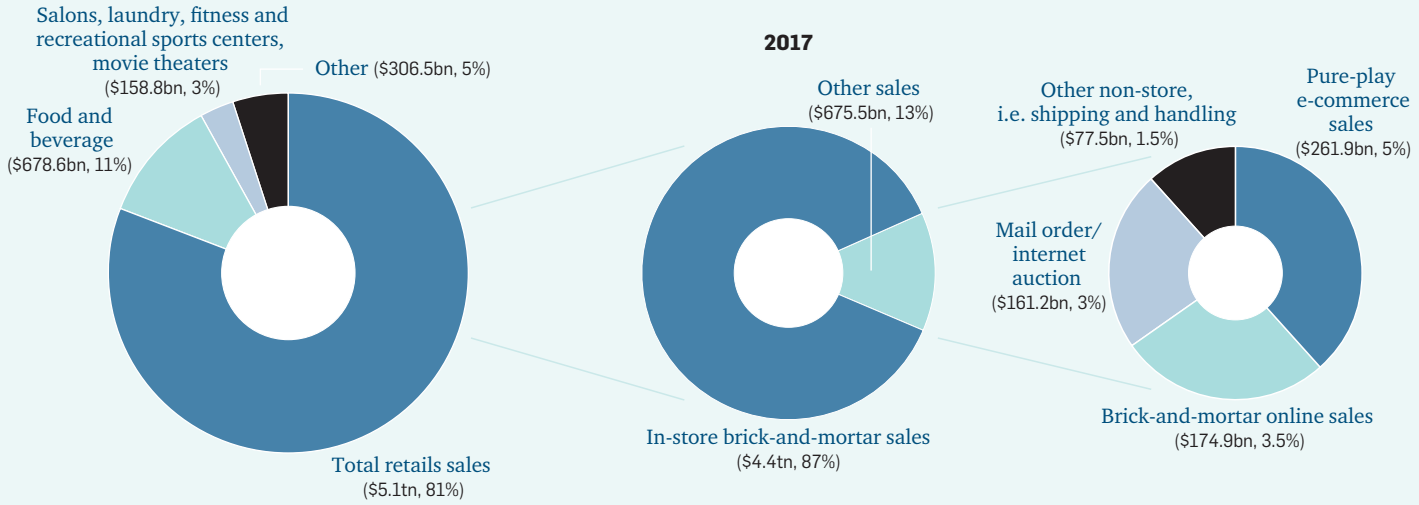
Not all brick-and-mortar retail is the same. Enclosed malls in non-prime locations may have trouble replacing vacating tenants, but shopping centers and malls in prime locations are still considered healthy, evident by net positive absorption and rent growth. For the former, repositioning opportunities will materialize, thanks to an abundance of capital available at historically low costs seeking opportunistic investment returns. As the retail world continues to evolve, brick-and-mortar stores will play an increasingly dominant role in the distribution of retail goods and services. Physical stores remain the most efficient and profitable distribution channel.

Exhibit 1: Tax rates by industry



Source: PwC, *The Wall Street Journal*.

Exhibit 2: Retail real estate is becoming consumer real estate



	In-store brick-and-mortar retail sales	Food and beverage	Pure-play e-commerce
2017 sales (bn)	$4,393.1	$678.6	$261.9
Growth since 2013 (bn)	$409.2	$135.3	$125.3
% growth	10.3%	24.9%	91.8%

Source: ICSC Research, U.S. Census.

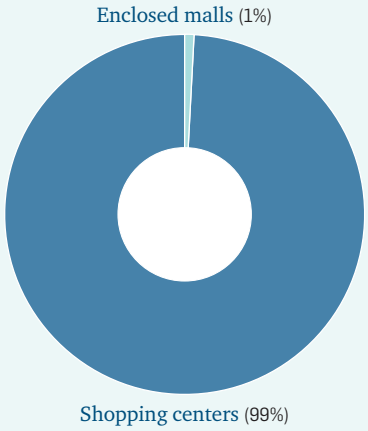
The mall

When asked about retail shopping, people often think of malls. Contrary to the prevailing perception, there are currently only about 1,040 malls operating in the U.S., compared to approximately 115,000 open-air shopping centers (Exhibit 3). While in the "old days" the mall offered the ultimate convenient shopping experience, in 2019, it is difficult to argue against the convenience of e-commerce. Consumers, no matter location, via the smartphone can compare countless brands and chains, choose the products they need, make a purchase at the click of a button, and speedily receive them right at their doorstep.

A key strength of malls was the department store which helped generate traffic and attracted consumers and visitors to the smaller inline shops within the mall. A combination of factors, including compressed margins, poor service, and high leverage, have wreaked havoc among department store operators. The downfall of this industry and its major players such as Sears and J.C. Penney has only intensified the damage caused to malls.

The way back to a profitable bottom line for malls requires them to adjust to the latest retail reality and create an

Exhibit 3: Shopping centers and enclosed malls in the U.S.



Source: ICSC Research and CoStar Realty Information, Inc.

attractive alternative for consumers vis-à-vis the e-commerce websites. Modifying the tenant mix by adding restaurants, fitness centers, and family fun zones gives consumers a reason to get off the couch and visit the mall not only to shop, but for an experience. Inspiration for the required change can be found in the open-air shopping center model and its premise.

The open-air shopping mall or lifestyle center attempts to marry the familiar mall model with open retail centers scattered across the U.S. to withstand Amazon and its kind. Essentially, open-air malls house a mix of tenants, in contrast to the unlimited shopping opportunities online, that prioritizes services and activities over products.

Compared to traditional shopping malls, open-air malls have a lower cost of construction and a leaner maintenance cost structure. The two are possible due to the lack of an overarching roof, thus rendering powerful central lighting and air conditioning systems obsolete. This also has the effect of creating a more "live" shopping experience that is entertaining whether on one's own or with family and friends. This also creates a clear distinction between the anti-social and boring shopping experience of making a purchase in front of a screen, and the creation of a more organic integration of the mall into its surrounding environment.

E-commerce proof retailers

Many landlords are strategically placing more service providers than ever to make their properties "e-commerce proof." The basic premise is that services cannot be migrated online and are irreplaceable, such as salons, medical clinics, movie theatres, fitness centers, and spas.

Other retailers that find ways to deliver value to the new breed of customers are:

1. **Restaurants:** People like restaurants not only for the food, but also for the overall experience. This fact is expected to help protect brick-and-mortar restaurants from losing traffic and sales to takeout and delivery services. In addition, as food service delivery is expected to grow significantly, restaurants are capitalizing on the opportunity to increase revenue, which will only benefit their existing locations and operations.

2. **Off-price retailers:** The heavily discounted prices offered by stores like T.J. Maxx, Marshalls, Ross, and Burlington are difficult for e-commerce players to replicate, especially considering the costs associated with delivering products to consumers in a short span of time.

3. **Dollar stores:** Similar to off-price retailers, dollar stores like Dollar General, Dollar Tree, and Five Below focus on cost savings. A few dollar stores are even attempting to penetrate the online marketplace at this time, but their aggressive store expansion plans suggest their e-commerce efforts are merely complementary.

4. **Furniture stores:** E-commerce infiltration sits at around 20% in this segment but is expected to stay relatively low as people prefer to physically test out furniture before committing to a purchase. In addition, shipping costs associated with bulky items such as furniture make returns extremely costly and inefficient.

5. **Grocery stores:** While there has been an influx of companies pursuing online grocery services, JLL has found that most people still prefer to inspect their food personally before buying. High costs and logistics challenges surrounding the online-to-door delivery of fresh food may also prevent companies from pursuing an online model.

6. **Service-oriented retailers:** Dry cleaners, hair dressers, and fitness centers "guarantee" heavy return traffic by customers and thus ensure unique value-proposition while promising irreplaceable benefits to their clients.

Exploring new formats and commercial real estate opportunities

Although location remains the key consideration for all retail, having a differentiated design and structure is increasingly important. Open-air shopping centers provide an additional benefit of creating an atmosphere of a town center, especially when they incorporate mixed-use real estate. Many of these centers being built in urban areas are open and fully integrated with the landscape and community. An example of a successful and profitable open-air shopping mall model

implementation is the Ala Moana Mall located in Honolulu, Hawaii. The seventh largest mall in the U.S., the Ala Moana Mall has more than 350 stores that are a mix of luxury brands, inexpensive off-price chains, about 100 restaurants, a weekly farmers' market, and other entertainment attractions.

To win customers/foot traffic in the e-commerce era, it is critical that shopping centers are much more than just stores. The mix of tenant/public space is moving from the current 70/30 ratio to 60/40, or even 50/50. When this happens, expanded public spaces will need to be planned and programmed over the year, much like an exhibition. They will need to be managed more like content and media, instead of traditional real estate.

Mixed-use developments like Kimco Realty's Pentagon Centre in Arlington, Virginia offer consumers an attractive and integrated community in which to live, work, and shop. Kimco is redeveloping a 329,000 square foot Costco-anchored shopping center, by adding a 26-story residential tower with 440 luxury apartment units and 7,000 square feet of retail on the ground floor. In addition, Kimco has secured entitlements to add a hotel and an office tower. Redevelopments like this enhance traditional retail by bringing more people to the site on a daily basis.

From clicks to bricks

Despite the convenience and lure of e-commerce, retailers understand that in-person customer experiences are key to customer acquisition and retention. As a result, retailers are expanding direct-to-consumer physical locations, as well as developing their online presence.

Some of these established retailers are shifting their focus from basic transactions to offering compelling brand experiences and higher levels of personal service. Examples vary from Apple with its Genius Bar tech support service to Adidas with its custom sneaker creations. These retailers are offering customers in-store experiences that cannot be matched online.

Furthermore, leading digitally native retailers such as Warby Parker, Athleta, Casper, and Bonobos, to name a few, have opened 400+ locations over the past 24 months.

For evidence that brick-and-mortar locations are necessary, look no further than e-commerce giant Amazon which has opened numerous physical stores. With their acquisition and integration of Whole Foods in 2017, the planned expansion of 3,000 new Amazon Go locations, and Amazon 4-Star stores, Amazon is clearly committed to reaching their customers face to face.

Research by UBS suggests that the majority of store closures have impacted the apparel category, which is a much bigger concern for enclosed malls as opposed to shopping centers. Neighborhood shopping centers face less pressure from e-commerce growth than department store-anchored regional malls, largely due to the department store's dependency on apparel sales.

Certain soft-line stores are failing to resonate with customers, while others (e.g., fast fashion, discount, athleisure) continue to perform well. Over the next three years, Gap will be closing 200 Gap and Banana Republic stores, but is also opening Athleta stores and spinning out Old Navy into a separate company.

“ Some of these established retailers are shifting their focus from basic transactions to offering compelling brand experiences and higher levels of personal service. Examples vary from Apple with its Genius Bar tech support service to Adidas with its custom sneaker creations. ”

Fundamentally speaking

Since 2009, the U.S. retail market has seen low levels of new retail supply (Exhibit 4). While there is shadow supply from store closures from the likes of Toys 'R' Us and others, demand simply outpaces the increase in supply. This has resulted in a downward trend in vacancy rates. As all real estate is impacted by the traditional supply and demand balance, retail properties have posted increased asking rents due to continued tenant demand and low levels of supply (Exhibit 5).

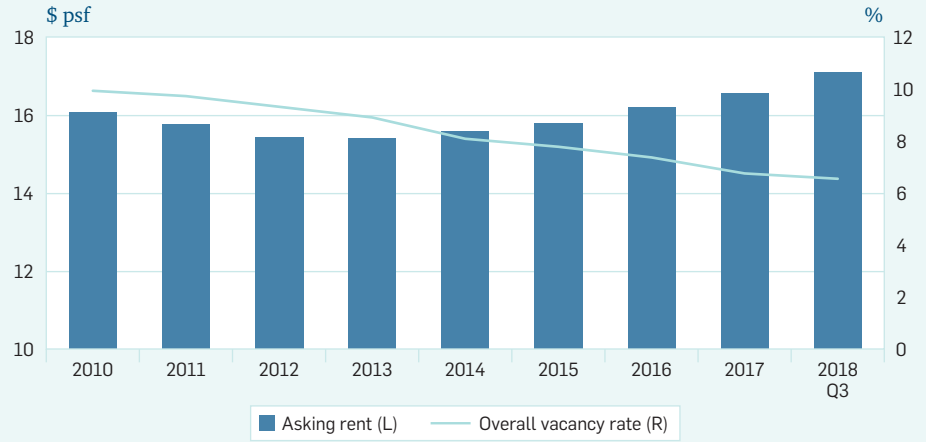
The future of brick-and-mortar retail

Modern retail store operators are adapting and integrating technology to enhance the in-store experience. App checkout, 3D scanning, and touchscreens will become common throughout major retail stores. Mobile apps, for both online and in-store retail, are becoming increasingly critical to long-term retail success.

Exhibit 4: Total retail completions

Source: CBRE Econometric Advisors, Q3 2018.

Exhibit 5: Rents and occupancy are going up



Source: Cushman & Wakefield, Marketbeat: U.S. Shopping Center Q3 2018.
This exhibit includes: community/neighborhood, power/regional, lifestyle, and strip centers.

The shopping experience must be more interactive to retain customers and to keep them coming back. James Giglio, CEO of MVP Interactive says, "Retailers will be experimenting or implementing features such as mobile rich checkout, virtual aisles, in-store gamification, augmented commerce, etc." A good example and implementation of these principles can be found in Glossier. The five-year old skincare company has taken the millennial beauty market by storm with its approach to makeup and use of social media.

Millennials and Generation Z are the future customers of retail. According to CBRE, over 77% of Gen Z consumers born after the mid-1990s and early 2000s prefer brick-and-mortar stores. Younger millennials have a strong desire for immediate gratification. The in-store experience satisfies this desire where they can purchase and own an item the same day, rather than waiting for an item to be processed and shipped to their home.

> "Modern retail store operators are adapting and integrating technology to enhance the in-store experience. App checkout, 3D scanning, and touchscreens will become common throughout major retail stores."

Consumers expect retailers to provide them easy, entertaining, and efficient experience for their money. It is evident that physical locations will be a prominent part of every national retailers' strategy to meet those expectations. In addition, there are numerous categories of tenants that thrive in retail properties providing goods, services, and experiences (gyms, restaurants, entertainment, etc.) that are not easily duplicated on a mobile device or computer. For all of these reasons and more, brick-and-mortar retail locations are the comeback kids of real estate. ◆

Scott G. Onufrey is President and Managing Partner of ALTO Real Estate Funds.

Best practices *in creating a* strong culture

Four key strategies can help create a culture that is satisfying personally and successful financially in logistics real estate firms.

By Kathleen S. Briscoe, Dermody Properties

There have been many discussions about corporate culture in the past decade and I believe that a strong culture should be a goal of every successful organization.

However, it can be difficult to define what a "strong culture" is, and it can be equally difficult for executive teams to set out in a deliberate, mindful way to create strong internal cultures within their organizations.

In my experience, every company has a culture, whether intentional or not. If senior managers fail to commit themselves to the nurturing of their organization's culture, one will rise to fill the vacuum, for better or for worse… often for worse.

Culture has always been a priority for Michael C. Dermody throughout his career. Since he first joined Dermody Properties more than 40 years ago, he instilled in the organization the corporate value that integrity and customer service go hand in hand. This is still the cornerstone of the culture at Dermody Properties.

Sustaining a strong culture is a priority for our entire leadership team. It is because of our deliberate focus on customer service and integrity that we have successfully nurtured our culture across a current and growing staff of 34, both in our corporate office and remote offices across the U.S., and through various economic cycles.

Our company finds that the benefits of a strong company culture are clear. A strong culture contributes to the identity of an organization and supports the attraction and retention of top talent.

In fact, a strong culture creates a virtuous cycle. A strong culture encourages success. Success, in turn, strengthens a good culture.

Culture in practice

So, what exactly does a company's internal culture entail?

In my opinion, it's the sum of the human relationships within the company. It's the chemistry that affects the human ecosystem of the organization and it is

determined by every single interaction within the company.

At Dermody Properties, one of the pillars of our internal culture is respect for one another and appreciation for the unique contribution of each team member. We're on conference calls five minutes before the scheduled start. Meetings have agendas, they start on time, they end on time, and people do what they say they are going to do. While seemingly small things on their own, these are examples of the respect we have for one another and our clients, customers, and investors at all levels and how we embody the Dermody Properties culture.

Our internal culture was not established by a committee and engraved on a plaque displayed out in the lobby. It is the result of actions — thousands of actions over hundreds and hundreds of workdays — and it reflects the daily habits of our top executives.

Michael often talks about his personal values of customer service, integrity, fairness, a strong work ethic, and giving back to the communities where we do business. This has been a guiding light in our culture at Dermody Properties, not only because of Michael's strong personal values, but because he leads by example. For instance, he established the Dermody Properties Foundation in 1988, and more recently the Annual Capstone Award in 2008, as a way to give back to the communities where we work and live. Every employee in the company is involved in the foundation which awards grants to nonprofit organizations in the regions where we do business. Under his leadership, in the 1980s, Dermody Properties established the first child care facility within a business park in Nevada because it was needed, and it was the right thing to do for our customers. This is just an example of how we have identified and provided innovative solutions to issues at hand.

> "A strong culture contributes to the identity of an organization and supports the attraction and retention of top talent."

Although it was before I joined the company, following a company-wide retreat with input from every employee, these values ultimately culminated in the creation of our formal mission statement in 1993; the statement that has now become the DNA of our company. Our word is our bond and we will do what we promise. Likewise, the mission statement is our promise to our customers, investors, and partners.

Under Michael's leadership, these values of customer service, integrity, fairness, strong work ethic, and giving back have become ingrained within the company and its culture. At our core is the basic value to treat others as we would want to be treated. While our culture — and the related value of seeking customer satisfaction before all else — arose from his personal value structure, it has become integrated in all we do because the entire leadership team leads by example at all levels.

Best practices

So how can senior managers create, protect, and enhance their company's internal culture? Here are four best practices that have worked well for us:

1 Hire with the internal culture in mind

The hiring process is the start to a serious relationship. You wouldn't ask someone to marry you after the first date, or even the third. Why should you hire a prospective employee after the first interview?

It takes time to truly understand the values that inform the decision-making of a senior executive and the ways that these values fit or don't fit with the company culture.

Michael shows us that a successful culture is one in which everyone in the company is aligned toward the same values. It's difficult to change the ingrained values system of a newly hired executive. So our company invests great amounts of time making sure the values of candidates already align with and support the core values of the company.

For example, before I was hired by Dermody Properties, the company asked me to prepare a written report that detailed the significant professional decisions I'd made since college. The company wanted to understand the thought process and value system I brought to each decision.

Everyone on the executive management team at our company interviews candidates for senior management positions. This ensures that a candidate's experience, work ethic, and values fit with those of the company and helps ensure that the entire team is invested in the success of the new hire.

Employees are a company's strongest ambassador and we work hard to ensure they personify our values. It's important to invest the time to seek and hire the right fit. That's also why we have a strong relationship with our recruitment consultant who has supported most of our senior hires. We recognize the

> Hidden agendas and distrust can sap the energy of senior managers.

importance and value of taking the time to ensure he understands our culture and core values before he starts a search.

2 Respect the importance of transparency

I've observed that successful human interactions of any kind depend upon trust. The internal culture of successful organizations likewise relies upon transparency.

Hidden agendas and distrust can sap the energy of senior managers. Obviously, not every piece of information within a company can be shared with every member of the team. However, cultures rooted in consistent transparency and proactive communication are far more likely to create success.

Similarly, everyone within the company has confidence that we all are on the same page. Confidence builds trust, and trust builds satisfying relationships.

At Dermody Properties, for instance, our regular touchpoints include weekly executive committee meetings, monthly management meetings, and company-wide calls and written updates. An investor can ask anyone on the executive committee a question and receive essentially the same answer.

3 Invest in technology to protect culture

Let technology do the heavy lifting. Dermody Properties has invested heavily in back-end technology. We're not slogging through stacks of data to provide useful reports to our investors; we have invested in integrated systems for accounting and reporting. Our investors, who need access to high-quality reporting quickly, appreciate reports that don't require a lot of reworking before they are presented to their boards.

While culture will vary from one company to another, it's doubtful that any organization believes that its most important cultural goals include work-filled weekends of number-crunching and chart-making, so we identified technology that can help us work as efficiently as possible.

Successful cultures are all about cultivating relationships, both internally and externally. Anything that stymies your senior managers from building strong, long-lasting relationships, and creating transactions runs counter to a successful culture.

That reflects a culture of respect for others, customer service, and investor relations. We find satisfaction in the knowledge that our investors appreciate the respect we have for them.

An unexpected payoff has been this: Investments in back-end technology have dramatically improved onboarding of new hires. They spend less time on minutiae and can get into relationship-building and deal-creation quickly.

4 Ensure the org chart supports the culture

Senior managers always keep a close eye on organization charts and staffing levels to ensure that they can execute their companies' missions. The smartest managers also think about the ways that the organization structure supports — or hampers — the company's culture.

For instance, Dermody Properties has taken time to understand the value that each team member brings to the organization. Then we created the infrastructure — support staff, technology, and other resources — that allows each team member to do what they do best.

Team members who are provided the organizational structure and resources to succeed aren't fearful. They don't look for opportunities to blame or launch personal attacks. They find that open, transparent communication delivers results. Most of all, they build deeply satisfying human relationships in their work.

Conclusion

Most investment managers travel often in their work. We've all had lousy flights — rude gate personnel, dirty tray tables, missing luggage — and we've all had flights where things went so well that our spirits were lifted. Both types of flights got us to our destination. But which flight would we choose and recommend?

Likewise, companies with troubled cultures can still sometimes get things done. But, given the choice between a company with a troubled culture and a company with a strong culture, which would our senior managers, our team members and — most of all — our customers and investors choose?

Michael reminds us that creating and sustaining a powerful internal culture is not a goal that you achieve or a destination that you reach, but rather a journey that everyone in the company strives to achieve each and every day. At Dermody Properties, we continually focus on improving and enhancing our culture so we can provide a rewarding workplace for team members at all levels.

In short, with mindful and deliberate actions, we can create internal cultures that deliver both personal satisfaction and financial results. ◆

Kathleen S. Briscoe is Partner, Chief Capital Officer for Dermody Properties.

Real estate impact investing: *Four key insights*

Understanding and defining impact investing can help investors succeed in this growing area.

By Lee Menifee,
PGIM Real Estate

The concept of impact investing is still in its early stages, and despite its rapid growth, many institutional investors are only just starting to make impact strategies part of their permanent allocations. It is therefore not surprising that we are seeing an array of definitions of impact investing in the marketplace. Nevertheless, our research into the history and current state of impact investing finds evidence of rising standardization and sophistication, laying the groundwork for continued growth in institutional capital allocations.

Real estate is an important subset of the impact investing universe, accounting for between 10% and 15% of all capital invested in impact strategies, or between $27 billion and $40 billion by our estimates. It has many appealing attributes for impact investors, notably the ability to invest in physical, visible projects that can improve communities as well as the health and well-being of people who live in them.

We have identified four key insights that have helped us to better understand and define impact investing, and how real estate fits into this strategy:

1 Impact investing is a distinct strategy

Unlike other investment strategies, impact investing has a dual, rather than single, mandate to generate positive social change alongside market-rate returns. One element of this mandate cannot be sacrificed for the other, and in many instances the two reinforce each another. For example, upfront investment in energy efficiency improvements in an apartment building can create cost savings, as well as improve the health of its residents.

[1] U.S. Energy Information Administration, 2015 Residential Energy Consumption Survey.

Impact investing is not a "you know it when you see it" strategy investment because all investment outcomes must be specified *in advance* to ensure that every new investment is made to maximize impact. Measuring positive social change is more challenging than calculating financial returns, but it is possible with the right resources. Examples of metrics used to measure impact from real estate investment include the number of affordable housing units created, on-site jobs created, and results from tenant satisfaction surveys.

2 Real estate impact investing is not the same as sustainable or green investing

Sustainability principles are increasingly important to institutional real estate investors, with advantages ranging from enhanced returns via cost savings to explicit sustainability mandates. But impact investing is about more than environmental, social, and governance (ESG) investing and socially responsible investing (SRI). The key distinction is that impact investing has an explicit goal to produce measurable and *direct* social change.

A real estate impact strategy may incorporate many of the same sustainability principles that have been adopted by ESG and SRI investors. However, sustainability principles alone are often insufficient to meet impact investing goals such as improving the economic and physical health of tenants and users of real estate.

Consider two examples of how real estate impact investments can use sustainability principles to make measurable, positive social change:

> "In the U.S., there is widespread need for the preservation and creation of affordable housing. Nearly half of all renter households are "cost-burdened," meaning that they spend more than 30% of their income on housing."

- Housing affordability includes more than just rent. Energy use is a significant component of housing costs, so improving the energy efficiency of existing housing stock is a way to lower the cost burden on residents. This is particularly important for affordable housing, as data from the 2015 Residential Energy Consumption Survey found that multifamily rentals occupied by lower income households were less efficient than those occupied by moderate- and higher-income households.[1]
- Enhanced energy efficiency improvements have also been shown to reduce air and environmental contaminants linked to chronic illnesses and respiratory health conditions, which may ultimately reduce pressure on healthcare systems.

3 Housing unaffordability in the U.S. is an issue that impact investors can help solve

In the U.S., there is widespread need for the preservation and creation of affordable housing. Nearly half of all renter households are "cost-burdened," meaning that they spend more than 30% of their income on housing. Cost burdens are particularly high in cities with high housing costs such as New York and Los Angeles; however, even areas with housing costs that are at or below the national average, such as Orlando, Denver, and Phoenix, have large numbers of cost-burdened renters, due to lower incomes.

The need for affordable housing is not limited to urban areas. Between 2000 and 2015, the low-income population in the suburbs across the country grew from ten million to over 16 million, outnumbering the low-income population in cities by more than three million.

To increase affordable housing stock in the U.S., private investment is required. Over the past half-century, there has been a shift toward programs that incentivize private investment into affordable housing, as opposed to solely relying on direct government funding or subsidies. This shift has created an opportunity for impact investors to meet their dual mandate of generating positive social change alongside financial returns.

4 Affordable housing is just one aspect of real estate impact investing

The growing need for the preservation and creation of affordable housing in the U.S. is clear. However, in areas lacking other elements vital to a healthy community, affordable housing alone is not enough. "Transformative development" is also needed to revitalize communities.

The spectrum of transformative development is much wider than affordable housing. Broadly defined, transformative developments are larger, community-based projects that are catalytic — meaning they intend to have an impact beyond the real estate project itself. Transformative developments are often anchored by a housing component, which may or may not be affordable. Examples of transformative developments without housing include mixed-use projects such as job and service centers, manufacturing facilities and schools.

The role of transformative developments in an impact portfolio is less specifically prescribed than housing, and therefore must be evaluated on a case-by-case basis. Nevertheless, there are metrics that can be identified in advance to measure standard impact markers, such as for health, economic, and educational outcome improvements.

The future of real estate impact investing

To be successful in addressing the growing need for both affordable housing and transformative developments, more capital will be required to invest into larger projects. Private sector investment, including capital provided by impact investment vehicles, will be an essential part of the capital stack.

Green certifications and other sustainability initiatives have transitioned in less than a decade from a "nice to have" to a "must have" across parts of the real estate industry. If it follows a similar trajectory, impact investing will quickly transition from a small niche to a permanent part of many institutional investors' real estate portfolios. ◆

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Riding *the* industrial WAVE *through the* late cycle

Last-mile investment strategies in the current compressing cap rate environment could offer attractive risk-adjusted returns.

By Zinuo Wang, NAREIM Fellow

Last-mile industrial properties have been some of the most sought-after commercial real estate assets in the last two years. Growth in e-commerce and logistics has led to a high demand for warehouses and distribution facilities near urban centers by pension and sovereign wealth funds, private equity funds, REITs, and developers. In December 2018, Steel Equities paid $52.5 million for a 160,000 square foot Bushwick warehouse leased to USPS. Two months later, Blackstone purchased a two-story warehouse with FedEx as the tenant in the LaGuardia submarket of Queens, New York City. The price? A whopping $55.5 million or $476 per square foot. Similar stories abound in Chicago, Los Angeles, and Orange County.

In this late cycle, last-mile assets are perceived to be recession-proof — with potential for growth. During the last recession, long-term vacancy rates for industrial assets declined. Because they now serve consumer needs for fast delivery, from dry cleaning to wine distribution, last-mile industrial has become a consumption-related asset. "Because last mile is close to consumers, it should be in high demand no matter what it is used for," said Sumit Sharma, research analyst at Berenberg Capital Markets. "The supply of industrial real estate is both limited by land use and physical limitations of building."

However, last-mile industrial faces headwinds. The U.S.' trade tensions with China and negotiations with NAFTA are expected to negatively impact trade-related warehouse demand. Logistics companies, in anticipation of a slowdown, have been front-loading goods into California. A tight employment market could hamper growth.

"E-commerce users are focused on locating their facilities where they can get access to a broad labor base," said Brad Gries, head of U.S. transactions at

LaSalle Investment Management. "I don't think it's going to impact demand per se. I think it's influencing user locations and obviously influencing the P&L because labor is a much bigger portion of the cost in supply chain than the real estate." According to JLL, labor accounts for 15% to 25% of logistics costs for a typical company (with transportation at 45% to 70%). However, for an urban, high-density e-commerce route, labor constitutes up to 75%. Who is going to pay for the extra cost? Likely the consumers.

Great fundamentals do not necessarily produce great investments. None of the market indicators acts as a counterforce to price tailwinds. The industrial cap rate is increasingly compressing and has dropped below that of some CBD office buildings. In Q2 2018, Colliers found that the U.S. recorded a historical low cap rate of 6.3%. Spaces with Amazon as a tenant traded at 5.7%. Meanwhile, CBRE reported that in infill locations near gateway cities, cap rates ranged from 3.75% to 4.75%. In this increasing interest rate environment, a deal could easily enter into negative leverage territory.

For savvy investors looking to invest in last-mile industrial assets, what opportunities may provide better risk-adjusted returns in 2019 and beyond? Below are three strategies.

The desire to go up

In some cases, multistory industrial facilities would be the only answer to justify land prices in last-mile locations. Despite its recent introduction to the American market, multistory industrial has long been established in the dense urban fabrics of Asia. When designed well, rent on the second, third, and even fourth floors can offset the construction cost and increase the yield produced on a fixed plot of land. In 2018, Prologis completed building the three-story fulfillment center Georgetown Crossroads in South Seattle. The 590,000 square foot building consists of a 410,000 square foot of fulfillment center on the first two floors and a maker's space on the third floor. To make this possible, two ramps designed for full-size 53-foot trailers connect an elevated 130 foot-wide truck court on the second floor. In South Bronx, Innovo Property Group is building a two-story 700,000 square foot warehouse. The project is set to complete in 2020 and will provide parking spaces for 486 cars, 120 box trucks, and 12 trailers.

> "From a last-mile perspective, obsolete retail and office properties are ideal for repurposing and repositioning as industrial assets."

Because of their close proximity to end consumers, multistory assets are more expensive. An industrial REIT was once outbid by 20% in the boroughs of New York City by an opportunistic developer who wished to expand vertically. But the catch is, who is going to lease the upper floor(s) where loading times for goods in both directions will increase? After all, time is money and that should impact how much rent tenants are willing to pay. According to Jacob Tzfanya, senior vice president at CBRE Transaction & Advisory Services, second floor space tends to be leased at half the rent for a traditional warehouse.

And the design and construction of multistory industrial buildings can be tricky. There is neither a comprehensive design standard nor many successful precedents. Although the outlook is rosy, going vertical might not be the right match for investors of all risk appetites.

Fix them up

From a last-mile perspective, obsolete retail and office properties are ideal for repurposing and repositioning as industrial assets. Many of these properties are located close to densely populated areas with access to highways and/or local artery roads. They are usually surrounded by large plots of land that can provide parking and truck turnaround spaces that are important for last mile. Investors can thus go in at a low basis and hit a home run.

However, the reality is there hasn't been many of these conversions. One big challenge lies in the entitlement process. Cities welcome uses that generate tax revenue and jobs, but industrial is not great in either department. On top of that, local communities usually want anything but industrial. Not all municipalities can turn down the opportunity to redevelop deteriorating malls and suburban office parks if it helps the local economy, especially if a tenant like FedEx or Amazon can bring both tax revenue and quality jobs. However, municipalities that do have negotiation power tend to be those that are being actively pursued for last-mile industrial conversion. These municipalities usually have population density and more affluent demographics. Importantly, the difficult entitlement process means competition is limited. Landlords like this because they have negotiating power over lease terms.

The actual conversion can be expensive and requires extra attention paid to the stability of the structure. Industrial warehouses require the appropriate ceiling height, structural bay width, floor load, and levelness, many of which were not accounted for in the original mall or office design. The most costly item would be to bring the floor level to truck-loading height, which means pouring concrete to form a build-up floor roughly four feet high for the entire interior. This level of reposition can hardly pan out even with a deep discount on acquisition. For investors looking into the opportunity, there is a choice to be made: to do it properly and assume the cost, or to accept slow loading speeds and settle for Class B or Class C rents.

Alternatively, would it make more sense to demolish the structure entirely and build a Class A facility from scratch? That's exactly what a joint venture between Principal Global Investors and Transwestern Development is doing with the former newspaper company Gannett's office and printing facility in Springfield, Virginia. They are spending $29 million to deliver a 190,000 square foot distribution center with 32-foot ceilings, 64 dock doors, and 50-foot by 43-foot column spacing. The project is expected to be completed Q2 2019 and is available for lease at $12.75 per square foot.

The tortoise and the hare

The third and final strategy is to simply look elsewhere: secondary and tertiary markets such as Atlanta, Dallas, Chicago, and Miami have the population density required but not bidding wars seen in New York, Los Angeles, Bay Area, and Seattle. Places like Austin, Jacksonville, Columbus, Sacramento, Nashville, and Memphis have lower prices, better yields, and more availability than in core markets. According to CBRE, Class A cap rates in these markets range from 5.25% to 6.25%, giving investors a much more attractive base.

Concerns over non-core markets relate to the real estate cycle, that, as a rule of thumb, they tend not to fare as well as gateway markets in recessionary periods. However, at least two examples prove otherwise. First, in the office sector where the operating model is very similar to industrial, Pittsburgh office markets bounced back sooner from the last recession than New York City. In Pittsburgh, office vacancies fell nearly 10% and asking rents rose over 20% from 2006 to 2013. New York City saw office rents grow at a much faster pace and cap rates compress tightly prior to 2008. When the recession hit, the vacancy rate soared and rents plummeted.

Second, according to Housing Price Index (HPI) data published by Federal Housing Finance Agency, the markets that experienced a sweet ride leading up to the peak in 2006 suffered big losses as the housing bubble burst and took longer to bounce back. Housing markets in Miami, Tampa, New York, and Washington, D.C. needed until 2018 to climb back up to pre-crisis levels. At the other end of the spectrum, Austin, Buffalo, Pittsburgh, and Raleigh saw steady upward price increases that carried the market and allowed for solid gains over the years.

This is a real-life example of the tortoise and the hare, suggesting a reversion of the popular perception of geographic risks. If any contrarian investor believes that last-mile industrial in gateway markets is overhyped, the examples above may move the needle for investment in last-mile in the secondary and tertiary markets.

Concluding thoughts

In the unlikely event that a forthcoming recession dramatically hits the industrial sector, industrial leader Prologis may have come up with an innovative approach to attract and retain tenants. They are signing gross leases (excluding real estate taxes or as Prologis calls "clear lease"), as CEO Hamid Moghadam discussed in NAREIM's 2018 Executive Officer Fall Meeting in Chicago. In the company's Q3 2018 earnings call, he reiterated that this initiative aims to simplify customer operations and cited hundreds of clear leases executed and overwhelmingly positive feedback from customers.

Other institutional investors remain interested observers. "It will take time to understand the impact of the new program and its rate of adoption by key stakeholders including tenants, tenant rep brokers, lenders, institutional buyers, etc. to determine whether it has traction and is scalable in the marketplace," said Douglas A. Kiersey, Jr., president of Dermody Properties.

From Sumit Sharma's equity research angle, clear lease is a retention tool that may not be needed right now when things are going well. But it could become crucial in the context of late-cycle prevention mechanisms. ◆

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If Amazon *can use* PROCESS OPTIMIZATION, *so can* REAL ESTATE MANAGERS

With fresh eyes, and a traffic light system visible to anyone visiting the firm's HQ, National Real Estate Advisors remapped critical processes to reduce bottlenecks and improve performance. Read how their process management team works.

Process optimization is a stodgy topic popular mostly among supply-chain savants and tech nerds. But companies such as Amazon and Apple have ridden process perfection to dizzying market cap heights, so surely investment managers could benefit from applying the same thinking across their real estate portfolios.

Washington, D.C.-based National Real Estate Advisors, LLC (National) took on this challenge and, through detailed process mapping and visualization, created positive impacts on operations and communications, saving time and resources while fostering a cultural change across the firm.

Tech and manufacturing giants have built empires maximizing output and profit by carefully studying their stakeholders and deliverables against their complex interdependencies, constantly perfecting productivity to reduce 'bottlenecks' and improve performance. National, a real estate investment manager with $3 billion net in assets under management (as of December 31, 2018), seized the opportunity, using their monthly and quarterly reporting as a launching point for their Process Collaboration Team (PCT).

"What I'm concerned about is providing our investors and consultants timely and accurate information about the performance of our fund as well as our individual investments," says Sam Bendix, managing director of investor relations for National.

National first ran a preliminary test of updating their quarterly presentation deck. The review resulted in a proof of concept that became the basis of the PCT's work model. Importantly, the project — and subsequent processes — was backed by the CEO who is focused

> “Teams are better positioned to self-manage and regulate their own work using the PCT’s system to benchmark their performance.”

Exhibit 1: Example of National’s traffic light system, tracking progress of the monthly financial reports

on the firm’s continuous improvement and was willing to give the PCT bandwidth to figure out solutions.

Jeanne Ayivorh, managing director of portfolio & asset management adds: “We recognized our final dates of quarterly client deliverables are often triggered by the first dates of third-party deliverables. Let’s say a third-party property manager has a financial report due by the 10th of the month. Not only does data have to come in on time, it has to be loaded into the portfolio software system in a timely manner for review. If these first steps are delayed, everybody else’s production timeline along the line is in jeopardy.”

The PCT’s first step was to interview key team members from areas such as research, portfolio management, asset management, accounting, operations, and investor relations, from leadership to the analyst level, encouraging them to share written narratives of their workflows, requirements, and deliverables. Using this information, the PCT visually mapped out the production process, the deliverables, and the groups involved so as to focus on areas where they could optimize results.

“Everybody has their own piece of the puzzle that they have to complete in order to finalize key deliverables by the end of the month,” says Cameron Lees, from National’s investment analysis team. “We broke down parts of various material processes to assess how they were working.”

Through this understanding, the PCT was able to create transparency and build standardized instructional documents and checklists. Importantly, based on guidance from the CEO, the team established a ‘traffic light’ system — visible to the entire company and to visitors to the firm’s headquarters — coloring key parts of the process with red, yellow, and green to indicate whether they are hitting goals or are stalled.

This level of transparency not only helped create accountability, but also helped to foster buy-in from all levels of the organization. “For many people it’s a motivator. As team members adjusted their priorities, performance improved,” added Lees.

In less than 24 months, the new processes enabled colleagues to better understand and appreciate each other’s workloads; addressed gaps and issues in processes; added a more transparent level of accountability; and finally, provided another training tool for onboarding new associates or for cross-training. Teams are better positioned to self-manage and regulate their own work using the PCT’s system to benchmark their performance.

Ayivorh further explained: “The PCT helps us unpack processes for senior management and our partners as well. Specifically, if senior management’s support is required to improve a process, the issue and proposed solution are more transparent so that leadership can support swift corrective action.”

Since launching, PCT has sought to address seven mission critical processes. While every company has standard processes underway even without a PCT, Bendix notes: “We have found that once someone takes the time to put pen to paper on a process that they think they know inside and out, they often find a missing step or a better step. We are fortunate that with the CEO’s support and belief in process improvement, our culture of collaboration makes a PCT an easy fit within our organization.” ◆