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TOP TEN ISSUES **AFFECTING REAL ESTATE™**

from The Counselors of Real Estate®

WITH COMMENTARY BY VICTOR CALANOG, PH.D., CRE®

Chief Economist and Senior Vice President | Reis, Inc.

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COVER STORY

2018

TOP TEN ISSUES AFFECTING REAL ESTATE™

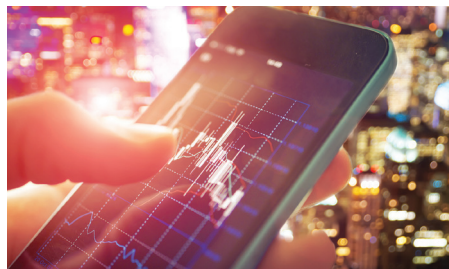
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Chief Economist and Senior Vice President | Reis, Inc.



Each year, the CRE External Affairs Committee engages our membership to determine which issues will influence the real estate industry most significantly. Counselors of Real Estate® (CRE®) are prominent real estate practitioners who pass a rigorous screening process recognizing their expertise, experience, and ethics in providing advice that influences real estate decisions. Counselors come from a wide array of professional backgrounds — from valuation, consulting, law, brokerage, and asset management to development, investment, lending, and corporate real estate. Encompassing more than 1,000 members, CREs are leaders in their respective fields. In this survey, Counselors take a forward-looking view of key issues that will change the industry both in the near-term and in the long-term, bringing opportunities and risks for market participants.

CURRENT ISSUES



1. Interest Rates & The Economy

The Federal Reserve's plan is to nudge interest rates back to historically normal levels — pushing short term interest rates upward. Concurrently, the passing of The Tax Cut and Jobs Act has enacted fiscal stimulus through deficit spending. As expansionary fiscal policy collides with tightening monetary policy, some speculate increased Federal borrowing could crowd out private entities from the debt market, while those who successfully secure financing face higher interest rates. Financing is becoming harder and more expensive to obtain, which could result in an economic slowdown.

2. Politics & Political Uncertainty

Geopolitical uncertainty, The Tax Cuts and Jobs Act, and potential trade wars are policies with the potential to affect real estate indirectly. However, some policy changes have more direct implications for real estate, particularly in the regulation of community banks. Broadly speaking, the new law relaxes some requirements of the Dodd-Frank Act, adjusts rules regulating HVCRE, and reduces HMDA data requirements.

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3. Housing Affordability

There has been a shortage of housing supply for nearly two decades. Simultaneously, income stagnation for all but the highest income households has hampered access to affordable homes and rental units. Now, as Millennials and others move to cities and begin to gentrify aging neighborhoods (formerly de facto affordable housing stock), a crisis of affordability is beginning to emerge. As this issue develops over the next few years, key questions regarding solutions are “Who pays?” and “How?”



4. Generational Change & Demographics

The real estate market is currently influenced by four demographic groups: millennials, baby boomers, Gen X, and Gen Z. Some companies have already started to adjust work processes, location, and space utilization in response to demographic changes; the housing market will also have to respond to evolving demands. Even though the different groups have overlapping desires, there are important differences in timing and ability to pay.



5. E-commerce & Logistics

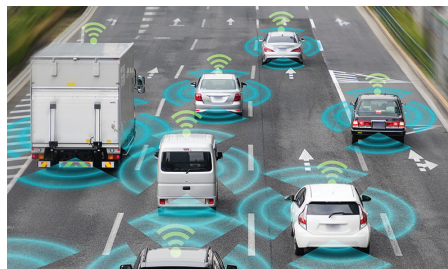
The U.S. Department of Commerce estimates that \$123.7 billion of retail sales were conducted through online channels in 2018 Q1, accounting for nearly 30% of all retail commerce net of automobile and gasoline sales. As retailers cope with this changing landscape, several big name stores have announced waves of store closures, while others have continued to open new locations. Commercial real estate will be directly impacted by these shifts in retail strategy – whether they be in brick-and-mortar stores or in warehouse/distribution centers.

LONGER-TERM ISSUES



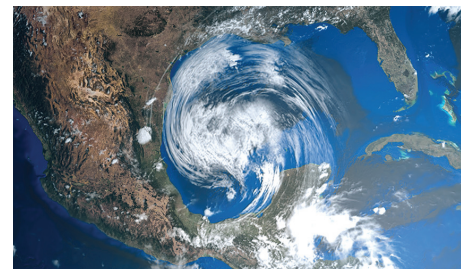
1. Infrastructure

Chronic underinvestment in infrastructure has elevated the risk of economic drag in the short- and long-term. Despite some political efforts, there have been very few serious attempts to address America's infrastructure maintenance problems. All real estate depends on well-maintained and reliable infrastructure: houses need reliable utilities, and warehouses and offices need efficient roads and transit routes.



2. Disruptive Technology

The real estate industry, like the rest of world, is poised to adopt new technologies. E-commerce has drastically changed the retail sector, while ride-sharing companies are altering the need for garage space in residential housing. Data continues to be commoditized, offering increased transaction transparency and enhanced demographic targeting. As owners and investors move to adopt these new technologies, they must decide which tools are most appropriate for their business and not rush toward “technology for technology's sake.”



3. Natural Disasters & Climate Change

Natural disasters and climate change are expected to increasingly affect real estate over time, which in turn are pushing states and local communities to establish urban policies and energy and sustainability regulations in order to combat these environmental conditions. However, more legal measures at the state and local levels imply more hurdles for real estate developers, especially with respect to corporate relocations and expansions.

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How Automation and Data Are Changing the Way Real Estate Works

BY JOHN D'ANGELO, CRE®

MANAGING DIRECTOR | DELOITTE

For the 25 years that I've been a management consultant helping companies in the real estate industry improve their operations, an inconvenient truth has been pervasive; as an industry, real estate significantly underinvests in technology and process. Although the tools and technologies used by real estate operators and investment managers have evolved significantly over the last couple of decades, the use of Excel as THE system continues to be widespread in the industry. That's not to say that interesting and valuable new tools aren't being developed and deployed to the market, but analytics, storage and reporting on information are still widely done in Excel. We are, however, at a tipping point that's likely to see Excel put in its place, new tools emerge, new institutional muscles built, and a new age of transparency in our industry.

What's behind this? There are a host of drivers, but let's examine a few important ones.

One of the drivers is the generational sea change occurring as Gen X ascends to leadership positions and Millennials take increasingly senior roles. These generations have lived a digital life and they're impatient or intolerant of manual processes and effort that can and should be automated. It's exactly this intolerance that has led to the formation of entirely new technologies in recent years that have disrupted and automated processes that had historically been very manual and laborious.

Another driver in institutional real estate is the increased demand for transparency from investors. During the Global Financial Crisis, investors realized they didn't have very good information at their disposal to understand investment performance and risk. They also realized that many of the managers with whom they'd made investments weren't capable of responding to their requests for granular information. As such, post-GFC, investors and their consultants have demanded significantly more reporting of asset-level and portfolio-level information. After investing more human resources to this typically manual and laborious task, managers are finally realizing that they need to invest in technology and process to help bring down the cost of the task and reduce the time it takes to respond to investor requests.

A third driver of change in the institutional world is investors using the results of operational due diligence as qualifying criteria before they invest with a manager or operating company. In addition to track record and other historically important criteria, investors are increasingly asking if the manager or operator has their operational act together. Investors want to be sure that the manager or operator is a good steward of risk, that they are able to consistently gather important financial and operational information about an asset, that they can demonstrate that they're putting that data to work to identify risks and opportunities at both an

asset and a portfolio level, and that they would be able to effectively meet reporting demands. In some cases, no matter how great the track record, if investors can't get comfortable with the results of operational, tech and data due diligence, they're not making the investment.

So how are we seeing the applications of technology paying off? A great case study comes from an investment manager with a portfolio well over \$50 billion in assets under management across pretty much all property sectors. As is the case with many large managers, this company realized that their dozens of asset and portfolio managers were spending, on average, 35% of their time every month wrangling data before they spent any time thinking about what that data meant. That's right, approximately 70 investment professionals spent nearly two days a week fetching data from external parties, aggregating it, reviewing it to make sure it made sense, and otherwise manipulating it to make the data useful. Further, the asset managers spent roughly a month every year drafting the annual asset plan and hold/sell analysis, which involved manually compiling information from a variety of systems to a paper-based format. When the manager realized how much time and effort was being spent, and how limited their capabilities were in performing analytics, they designed and implemented a solution to automate and streamline the effort and add capabilities.

(CONTINUE ON **PAGE 6**)

Relative Value Remains in European Real Estate, Despite Record Low Cap Rates

BY DENNIS SCHOENMAKER, PH.D.

INVESTMENT RESEARCH & STRATEGY | AEW EUROPE

and

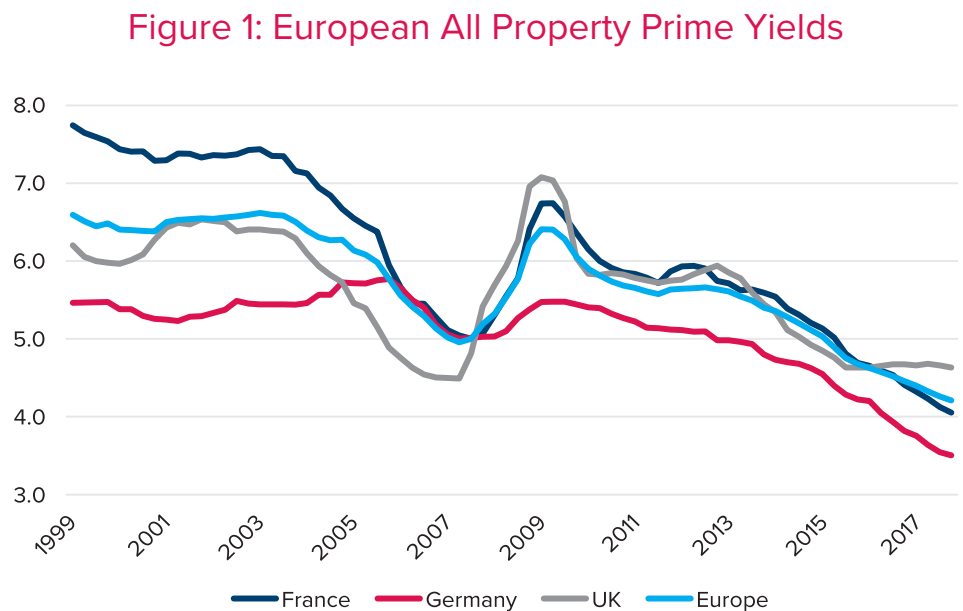
HANS J. VRENSSEN, CFA, CRE®

HEAD OF RESEARCH & STRATEGY | AEW EUROPE



In the aftermath of the Global Financial Crisis, unprecedented quantitative easing policies and record low policy rates created an abundance of liquidity or a “wall-of-money” into financial markets. Commercial real estate has not been an exception and has matured into a widely accepted *financial asset type* in the multi-asset investment portfolios of most national and international investors.

Over the last eight years, European investment volumes have recovered, then peaked in 2015. As a result, prime property yields or cap rates across five core European markets compressed from around 6.5% in 2009 to a record low of just above 4% in 2014 (see Figure 1). Because of this, investors are fully justified to question if *there is still good value in European direct real estate*. The simple answer to this is that real estate is expensive in absolute and historical terms. However, in an increasingly interconnected world where multi-asset investors become ever dominant, valuations are relative. Multi-asset investors do compare real estate to other asset classes to determine its relative value. Therefore, the more appropriate answer to the question has to involve comparing direct real estate with other asset classes, including stocks, bond and REITs. Only



Sources: CBRE & AEW Research 2018

by following this approach can we really understand relative value.

Therefore, we implement a straightforward approach and introduce a so-called Z-score methodology to construct our European Relative Value index.¹ This index is based on the equal weighted comparison of the following three variables: (1) prime property NOI multiple vs. corporate earnings multiples for stocks;

(2) prime property yields vs government bond yields; and (3) premium or discount to NAV prices. Each is compared to its historical average through its Z-score, so as to take into account any historical bias from investors. Our methodology is similar to that adopted by our U.S. colleagues, as far as our data allowed.

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1. The approach, data selection, coverage and time-period is explained in AEW's European Relative Direct Real Estate Index as published in March 2018:

<http://www.aeweurope.com/en/pdf/research/Q1-2018-AEW-Europe-Real-Estate-Quarterly-EN.pdf>



4. Immigration

The RAISE Act (Reforming American Immigration for Strong Economy) restricts legal immigration, dropping the number of green cards from the present 1.1 million to 500,000 annually. As the U.S. faces a long-term labor shortage due to an aging population, the stifling of legal immigration will have implications for the economy at large as well as for real estate.



5. Energy & Water

A combination of higher energy prices and higher real estate financing costs is expected to create optimistic growth forecasts for 2018. Additionally, the population within urban centers across the U.S. is likely to increase and thus put pressure on existing real estate centers to be able to provide water and other essential resources. •

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For a more detailed discussion of these topics, visit:

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AUTOMATION AND DATA IN REAL ESTATE (CONTINUED FROM **PAGE 4**)

Today that same manager uses an external service provider to gather data from external sources to make sure it's correct and delivered in a consistent format. They also implemented a system that houses an aggregated set of data for each asset, presents it in an easy-to-digest format, and enables robust and flexible analysis and reporting without extraordinary effort.

And, importantly, all asset strategy and plan information is contained in the system; no more having to compile and assemble information from multiple places. Instead of being heads-down looking at paper, the asset review process is done on-screen in the same system that the asset and portfolio managers use to perform their day-to-day duties. Plus, since the effort to compile information has been almost eliminated, the manager is performing more frequent reviews. The two days per week that are freed up are now being spent managing a larger portfolio with the same number of people and those people are able to perform more analysis and ask more questions that should result in greater returns.

Besides the obvious business benefits, there are a couple of things to note about this case study. When they partnered with an external service provider, a "big 4" firm in 2014, they were the only one on the market providing these services and had only been providing them for a few years.

Today there are multiple service providers and methods to get data. Also, this company started out wanting to buy a packaged system to meet their needs, but they couldn't find an existing system that sufficiently satisfied their requirements. Accordingly, they designed and developed a front-end application and single back end data hub to meet their needs. It's likely that if they did the same search today, they'd find more than one application that would meet their business and data requirements from a software vendor, and new solutions seem to be cropping

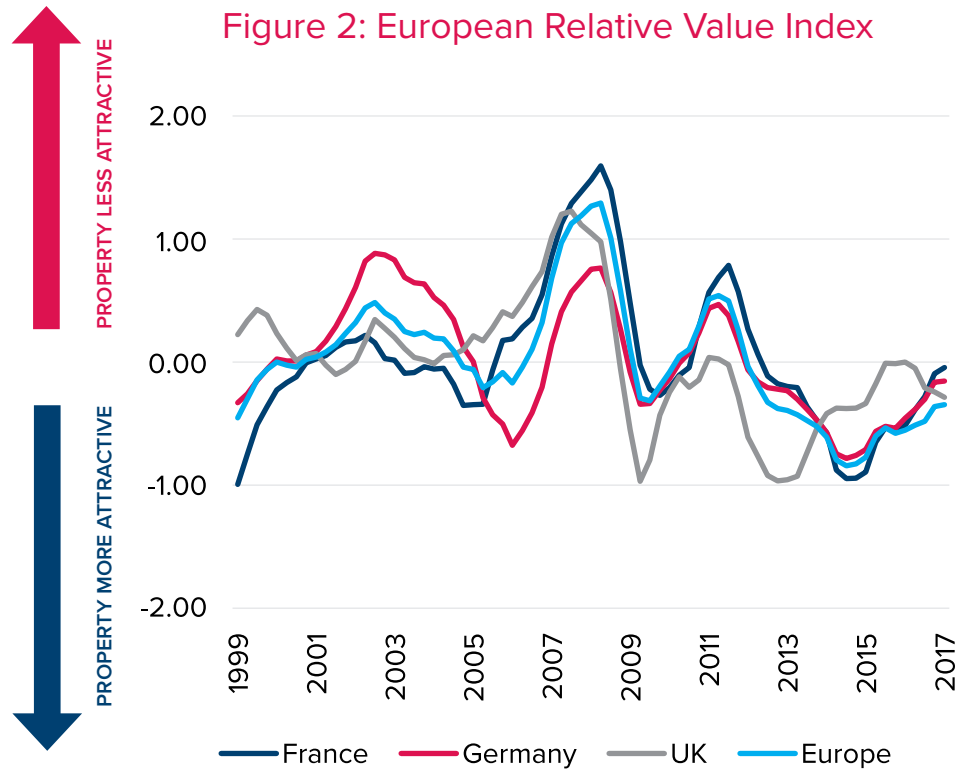
up regularly while existing solutions keep getting better. Finally, while this client's solution and current vendor offerings are based on traditional database and application development tools, blockchain-based solutions are ideal for many applications in the real estate industry where information is distributed among many service providers and needs to be delivered to multiple owners. I'm hardly the first to make this observation, but don't be surprised at the positive disruptions coming to our industry!

Whatever the drivers, know that if you or your clients are conducting business with widespread manual processes or using Excel for more than analytics and modeling, your world is going to change, and this change is good. The big question about significantly greater automation in institutional real estate isn't if, it's when. •

John D'Angelo, CRE®, provides management consulting services to the real estate industry with a focus on operating model design and improvements for investment managers and institutional investors.

When comparing the results of our index for Q4 2017 in more detail, UK prime property is slightly more fairly priced than markets such as France and Germany (see Figure 2). We could already see this from the divergence in yield movement since 2015 in Figure 1. Based on our index, the UK was less favourably priced before the Brexit-referendum, but this has reversed since then. The inverse was the case in France and Germany, as yields continued to tighten after the Brexit vote.

What does this mean for relative value going forward? Our index is not designed to really answer this, as we do not forecast REIT NAV discounts, government bond yields or stock earnings multiples. The answer is complicated as events that shape the future are not only difficult to predict, but are also interrelated — i.e., if bond yields widen, stock multiples could easily rise. However, when we do a yield normalization simulation under the assumption that everything else is equal, it does not change our results significantly as European real estate will still be fairly priced. Finally, when looking at the downsides we see less risk in the European markets compared to previous cycles, as new supply of space is more subdued and leverage has remained more modest on the back of stricter bank regulations. •



Sources: CBRE, Oxford Economics, EPRA, Natixis & AEW Research 2018

Dennis Schoenmaker, Ph.D., is a specialist in real estate economics. He joined AEW in 2017 as an associate in the Research & Strategy team, focusing on the pan-European commercial real estate market.

Hans Vrensen, CFA, CRE[®], is an AEW managing director heading the European Research & Strategy team. He is a seasoned analyst in the international commercial real estate and capital markets with over 25 years of experience.



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