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SUSTAINABILITY AND VALUE: A CONVERSATION WITH SCOTT MULDAVIN

In an interview with the Executive Director of the Green Building Finance Consortium, BetterBricks discusses the challenge of quantifying sustainable real estate's enhanced value.



The focus on high performance buildings is clear in the commercial real estate industry, with leading organizations making strategic decisions to pursue energy efficiency and other “green” practices. Now, returns-oriented real estate practitioners have begun to dig deeper and ask the hard questions—specifically, what value does sustainability bring to real estate?

Several academic studies have attempted to find a quantitative answer, amid abundant anecdotal evidence confirming the link between sustainability and value. One of the first systematic efforts was a widely-disseminated study titled “Does Green Pay Off?”, by Andy Florance (CEO of CoStar, the leading provider of real estate information in the U.S.), Jay Spivey (CoStar’s research director), and Norm Miller (a University of San Diego real estate professor).

Presented in multiple iterations beginning in 2007, the study analyzed LEED- and ENERGY STAR-certified buildings in CoStar’s commercial property database of roughly 44 billion square feet. It compared those buildings to non-certified properties with similar size, location, class, tenancy, and year-built characteristics.

Under this original peer-comparison model, LEED-certified buildings reportedly sold for \$171 per square foot (64%) more than comparable non-LEED buildings and rented for \$11.33 per square foot per year (36%) more. ENERGY STAR-labeled buildings purportedly sold for \$61 per square foot (27%) more than their peers, and rented for \$2.40 per square foot per year (9%) more.

In an alternative method implemented for the study, the authors used a hedonic pricing model to estimate the influence of several independent variables—including ENERGY STAR and LEED status—on sales prices. This model found instead a 9.9% price premium for LEED-certified properties, and 5.3% for ENERGY STAR-labeled buildings.

Scott Muldavin, founder and Executive Director of the Green Building Finance Consortium (GBFC), has been both a consultant to and direct investor in the real estate industry for more than 25 years, focusing on how investors and capital providers turn complex information into decisions. The GBFC helps investors analyze a sustainable property from a financial perspective—not only in terms of case studies and general evidence, but in terms of the broader underwriting practices involved in decision-making by private sector investors.

Given that background, Scott is a natural candidate to help real estate practitioners interpret and use the results of the studies linking sustainability and value. BetterBricks spoke with him about his June 2008 report, “Quantifying ‘Green’ Value: Assessing the Applicability of the CoStar Studies.”

BetterBricks: What prompted you to write your report?

Scott: I received 50 to 60 emails from Consortium members and others asking for my opinion about the CoStar report that was so widely distributed throughout the world. People wanted to know what they were supposed to make of all this. I thought there was an opportunity to assist the market in interpreting these quantitative studies of value and their role in decision-making.

BetterBricks: What did you find to be the major merits of the CoStar study?

Scott: The fundamental conclusion is sound—sustainable buildings are more valuable. Also, to their credit, CoStar had already taken the time and energy to identify the green buildings in their database; you can’t start analyzing green buildings unless you can identify them.

The analysis of green leasing is another hidden gem in the report. For all buildings in CoStar's green database, they've identified the types of tenants leasing at the highest levels. Law firms held the largest proportion of green leases—12% of all leases signed by law firms in America are in green buildings. The transportation sector was the lowest—six transportation companies are in green buildings, which is less than 1% of all transportation leases signed throughout America. Understanding the behavior of tenants and investors in this way is more important to the valuation of a specific property than a quantitative value or regression model. It's exactly the kind of analysis that investors need.

BetterBricks: What did you believe would strengthen the findings or conclusions?

Scott: Mainly, the presentation of the information could have been done differently. In thousands of Web citations all over the world, the media presented only the price and rent premiums from the peer selection model, without discussion or caveats, implying that the result was statistically strong due to controlling for multiple factors. More discussion on the limits of the statistical model would have been useful to appraisers, investors, and other users, since there were issues due to the small sample size and inherent difficulties in selecting truly comparable peers. Peer properties were chosen within five miles of the green property in the majority of cases, as opposed to within a few blocks. Better control for the time of sale and building age also would have improved the results, due to the tremendous increase in sales prices during its timeframe. Most importantly, they should have also presented the results of the hedonic model, which was left out of the presentation entirely.

Also, focusing simply on a certification, without differentiation for the level or type of certification or the specific sustainable features within a building, limits the applicability. Something more granular is needed to capture the true contributions to enhanced value.

BetterBricks: How does the statistical legitimacy of the hedonic model compare?

Scott: The hedonic model had more validity. It showed a LEED certification resulting in a \$24 per square foot price premium. Performing this same analysis for rent premiums would have much improved the work.

These studies are improving their methodologies each time they're performed. CoStar came out with another version on July 12, 2008, which no longer mentions the peer selection/comparables model and just focus on the hedonic model. But it still doesn't have a conclusion about rents using that approach.

BetterBricks: What do you think of the April 2008 study—"Doing Well by Doing Good? Green Office Buildings" by Piet Eichholtz, Nils Kok, and John Quigley of the University of California, Berkeley—which performed a similar analysis?

Scott: It makes one significant improvement, which is to introduce a geographic control where comparable properties are within a quarter mile of the green property. But if you believe their conclusion, LEED certification has no effect on rent, and an ENERGY STAR label brings only a 2% rent premium. I feel very strongly that both LEED and ENERGY STAR do have an effect on rents today.

Otherwise, this study requires many of the same statistical caveats I've suggested for the CoStar report. For example, it uses recent leases for its rent variable for each building, rather than the average rent in a building. Lease rates in the same building will vary dramatically based on views, floor level, lease term length, existing tenant improvements, and other factors. This study, like all the other studies of this type, provides no control or assessment of these issues, introducing significant questions about the validity of the results. This type of fine-tuned comparables analysis is the heart of what good valuers and underwriters do, and why the industry relies on human beings—not regression models—when they make investments.

BetterBricks: In a June 2008 study called "Does it Pay to Be Green? Connecting Economic and Environmental Performance in Commercial Real Estate Markets", Franz Fuerst and Patrick McAllister of the University of Reading Business School also attempted to quantify the value of sustainability. They found a rent premium of 11.8% in certified buildings, and per-square-foot sales price premiums of 10% and 31% for ENERGY STAR and LEED certifications, respectively. What are your thoughts on their approach?

Scott: This again has some of the same statistical issues, and uses a much smaller sample size. But the fundamental

difficulty with all of these academic studies or regression models is that no one in the industry has ever used this kind of model to actually estimate a rent or value for a particular property. Appraisers and underwriters have a totally different approach, which considers many different factors. Academic models can't factor in all those things simultaneously—it's just not statistically possible. The reports are all good in that they provide broad evidence that ENERGY STAR or LEED certification may lead to increased financial performance or value, but it's difficult to take them much beyond that.

BetterBricks: So the studies can be considered valuable information for making strategic decisions about sustainable real estate investments and management, but may not support tactical or property-specific decisions.

Scott: Academic studies are very beneficial for, say, a corporate board to learn about the costs and benefits and make the strategic decision to move forward with a focus on sustainability. But most of the data is not appropriate for tactical or property-specific decisions, such as whether to move forward with all property types and regions, or in phases. Since they don't go into detail about the elements contributing to the green certifications, none of the studies tell you what you should spend your money on.

And that's fine, because real estate analysis is a qualitative science. We need to do a better job of the qualitative analysis and focus on the behavior of regulators, investors, and tenants—what do tenants want, and how is my building going to deliver what they want?—rather than developing a quantitative model. The statistical controls are just not up to the task of dealing with the true nature of the data. For example, between 2004 and 2007, there were large moves in property values over months and quarters, but at best, the studies control for sales on an annual basis.

Further, based on my research, there's been a radical shift in tenants' and investors' attitudes toward sustainability in last six to 12 months. These studies can't possibly capture these shifts, given such a rapidly changing environment.

BetterBricks: What future studies or analysis would you anticipate to help provide the market with more conclusive proof of the quantitative relationship between sustainability and value?

Scott: Appraisers and underwriters need to do a detailed study that mimics the actual complexity and judgment required for the appraisal process—create a detailed comparables matrix; make the necessary adjustments; talk to the owners, tenants, other brokers. I and a group of others have designed a study like this.

BetterBricks: What do you consider the key lessons learned from the discussion on value and sustainability?

Scott: The major lesson is that there is evidence for the substantially increased value of energy efficient or sustainable properties, due to radical increases in tenant demand, investor interest, and the level of regulations and incentives being offered.

That said, these general arguments are not a sufficient basis for any developer or owner to go to a capital source for their project. You need to establish why the general arguments are applicable to your specific property, and translate that into value. Every office building has unique attributes, but somehow real estate appraisers and underwriters are able to take these complicated differences and come up with financial values. Sustainability just adds additional attributes to the mix—you have to figure out the relative importance of those attributes to the users of that specific building, going back to basic real estate analysis.

BetterBricks: Will the Consortium's upcoming report, "Underwriting Sustainable Property Investment," address these issues?

Scott: The report will look at how people make decisions, including creating and reviewing financial models, but also the whole range of other underwriting required prior to an investment decision being made. I'm hoping people doing due diligence will see that the frameworks and underwriting practices the Consortium is developing can be easily integrated into their current practices—they just have to think about it a little differently.

I am also working on another study—"Pricing and Mitigation of Sustainable Property Risk"—based on the idea that you don't always want to see the ten case studies where things have worked out great. I'm really interested in the projects that didn't work and why, because I can learn more from that. Money wants to know about failure and underperformance because without risk, you couldn't make any money. You just need to understand risk better than the next guy to mitigate it.