



‘Doing Well by Building Green (?)’

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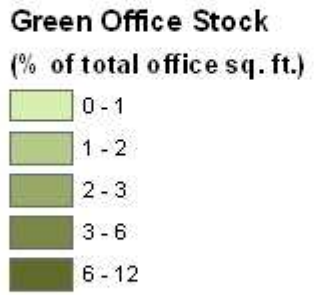
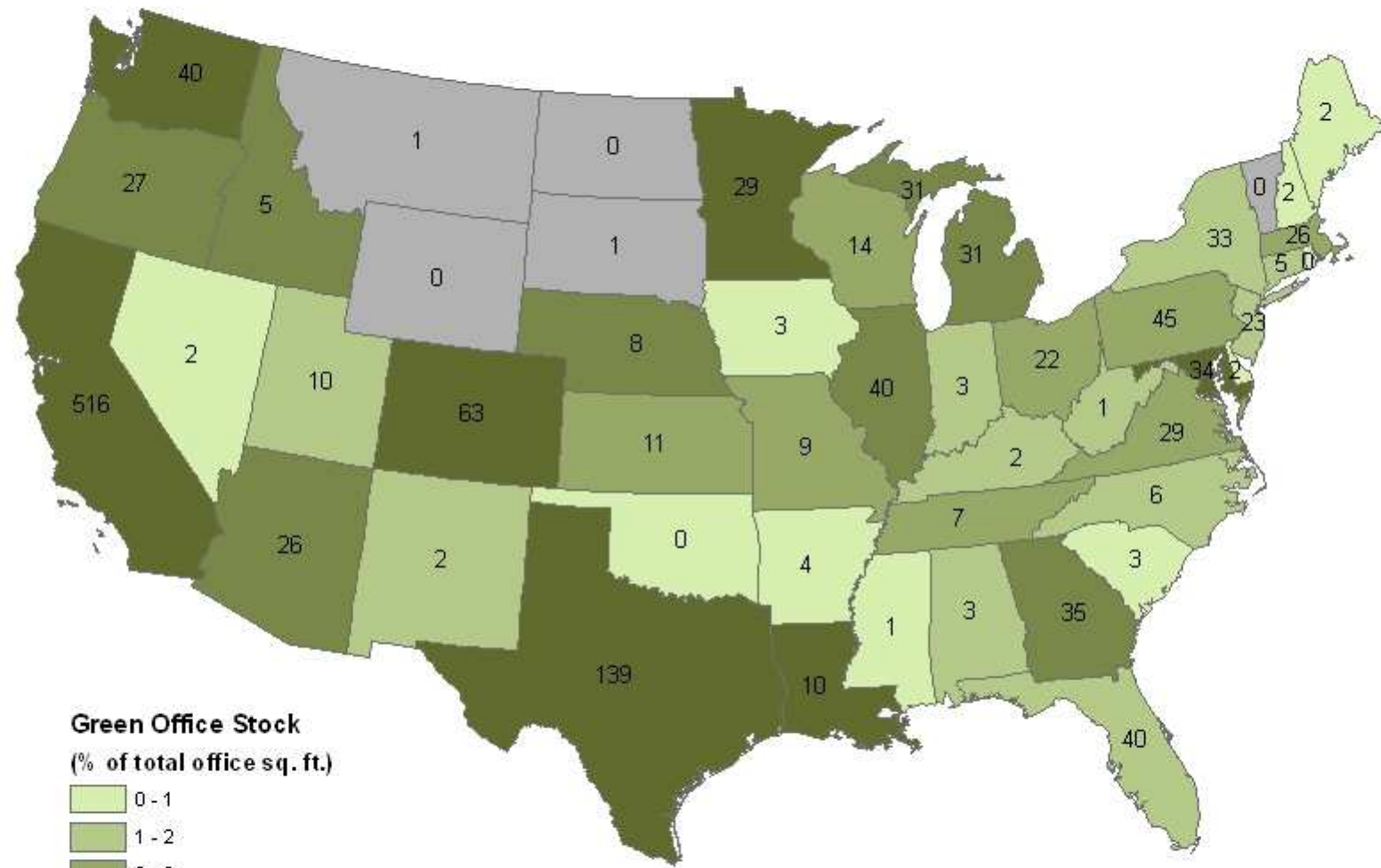
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Current research

The economic value of green buildings

- Numerous advantages of sustainable buildings, but...
...does it pay to build green?
- Credible evidence lacks – this is needed to obtain critical mass from developers and the investment community
- Dataset of ‘green’ existing office properties (U.S.)
 - Energy Star (EPA and Department of Energy): 1,045 observations
 - LEED (USGBC): 286 observations
 - Control sample: 8,000 observations (based on location)
- CoStar database
 - Rent and pricing data
 - Quality characteristics – size, age, amenities, etc.



Source: Costar and authors' calculations

Results

Eco-investment real estate sector is not only 'doing good'

- Green label pays on U.S. commercial property market
 - Rent increases with 2%
 - Effective rent – corrected for occupancy rate – increases with 6%
 - Sales price increases with 16%
- Is this rational?
 - Engineering effect
 - Signalling value label (reputation corporate tenant or...hype)
- So...who's willing to pay the premium?
 - Oil industry – 60% of total industry office space is green
 - (Investment) banks
 - And...government agencies – most notable EPA

Where do we go from here?

ECCE research agenda – real estate

- International extensions
 - UK: BREEAM
 - Japan: CASSBEE
 - Australia: GreenStar
- Effects of energy labels on residential real estate
 - English Housing Condition Survey
 - 17,000 housing units with SAP-label
 - Highly detailed underlying data on demographics and energy use
- Indirect green property investments: REITs
 - Extension of KLD dataset with real-estate specific 'G'-factor
 - How do 'green REITs' look?
 - Performance effects
 - Clustering of tenants?

Appendix

Table 3
Regression Results
Commercial Office Rents and Green Ratings
(dependent variable: logarithm of effective rent per square foot)

	(1)	(2)	(3)	(4)	(5)
Green Rating (1 = yes)	0.085 [0.024]***		0.082 [0.024]***	0.064 [0.023]***	
Energy Star (1 = yes)		0.089 [0.024]***			
LEED (1 = yes)		0.044 [0.077]			
Building Size (millions of sq. ft.)	0.263 [0.028]***	0.263 [0.028]***	0.236 [0.028]***	0.190 [0.031]***	0.194 [0.033]***
Building Class:					
Class A (1 = yes)	0.414 [0.024]***	0.414 [0.024]***	0.344 [0.026]***	0.233 [0.028]***	0.229 [0.029]***
Class B (1 = yes)	0.227 [0.020]***	0.227 [0.020]***	0.203 [0.020]***	0.153 [0.021]***	0.148 [0.021]***
Net Contract (1 = yes)	0.017 [0.036]	0.017 [0.036]	0.012 [0.036]	0.012 [0.036]	0.014 [0.039]
Employment Growth (fraction)	0.754 [0.896]	0.690 [0.904]	0.762 [0.896]	0.671 [0.887]	0.473 [0.929]
Age:					
< 10 years			0.138 [0.037]***	0.181 [0.037]***	0.148 [0.042]***
10 – 20 years			0.144 [0.028]***	0.151 [0.028]***	0.150 [0.031]***
20 – 30 years			0.116 [0.022]***	0.116 [0.022]***	0.126 [0.023]***
30 – 40 years			0.100 [0.023]***	0.093 [0.023]***	0.088 [0.025]***