Portfolio greenness and the financial performance of REITs

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Abstract

This paper investigates the effects of the energy efficiency and sustainability of commercial properties on the operating and stock performance of a sample of US REITs, providing insight into the net benefits of green buildings. We match data on LEED- and Energy Star-certified buildings with detailed information on REIT portfolios and calculate the share of green properties for each REIT over the 2000–2011 period. We estimate a two-stage regression model and document that the greenness of REITs is positively related to three measures of operating performance – return on assets, return on equity and the ratio of funds from operations to total revenue. We also document that there is no significant relationship between the greenness of property portfolios and abnormal stock returns, suggesting that stock prices already reflect the higher cash flows deriving from investments in more efficient properties. However, REITs with a higher fraction of green properties display significantly lower market betas.

1. Introduction

Investors increasingly incorporate information on the environmental, social and governance (ESG) performance of corporations into their investment decisions. The real estate sector is of specific interest

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from an environmental perspective, as it has been well documented that the sector is responsible for some 40 percent of global greenhouse gas emissions, for 55 percent of the global use of wood, and for about 75 percent of the US electricity consumption. More efficient use of energy and other resources by the real estate sector can structurally reduce these numbers, and thus lower the demand for increasingly scarce (and costly) natural resources.

Importantly, improved sustainability performance in the real estate sector may well be aligned with enhanced financial performance, through lower operational costs as well as reduced portfolio risk. Indeed, a 2007 McKinsey report has suggested that many investments aimed at reducing carbon emissions from buildings could be made at a profit (Enkvist et al., 2007).

The effect of energy efficiency and sustainability on financial performance in real estate markets has been investigated mainly at the individual asset level. The common question addressed in the literature is how “green” certification of properties is related to cash flows and property valuations, and generally the evidence shows positive financial effects associated with better environmental performance. For example, commercial buildings with energy efficiency ratings command significantly higher rents, higher and more stable occupancy rates, and higher prices than otherwise comparable conventional buildings (Eichholtz et al., 2010; Fuerst and McAllister, 2011). On the other hand, lower levels of energy efficiency and sustainability have been associated with an increased risk of obsolescence (Kok and Jennen, 2012). But to improve the environmental performance of their property portfolio, building owners have to incur capital expenditures. The existing body of empirical research on green buildings considers just benefits, and while it is enticing that green buildings command price premiums, it may take a similar investment to retrofit or enhance the building. Indeed, there is no convincing empirical evidence that shows the return on retrofits, or green investments for a building owner. Thus far, systematic cost–benefit analyses at the building level have been limited to case studies (Ciochetti and McGowan, 2009; Kats, 2003).

The operating and stock performance of property companies – Real Estate Investment Trusts (REITs) – is the eventual outcome of the interplay between the costs and benefits from investments in properties. Investigating this interplay may shed some light on the question whether investments in the greenness of buildings creates value for property investors. As the operating and stock performance of REITs is readily observable, and since it is possible to obtain building-level information about their investment portfolios, REITs provide an ideal vehicle for empirical research on the financial implications of the environmental performance of property portfolios.

The financial performance of REITs may be affected by the extent of green-labeled properties in their portfolio through two different channels. The first channel is related to the direct benefits of green properties. These benefits include increased operating efficiency through lower operational costs (and thus lower exposure to rising energy prices), but also higher and more stable occupancy rates and higher valuations of properties. The second channel is related to the ancillary benefits of corporate social responsibility (CSR) by increasing investments in portfolio greenness. These CSR-related investments may lead to better reputation (Turban and Greening, 1997) and enhance loyalty of employees, customers and local communities (Ribstein, 2005). Consequently, a better CSR performance may improve financial performance. Our aim in this paper is to investigate the aggregate effect of the two channels on operating and stock performance.

We match data on LEED- and Energy Star-certified buildings with detailed information on REIT portfolios and calculate the share of green properties for each REIT over the 2000–2011 period. In order to control for the oft-discussed endogeneity between environmental and financial performance, we use two instrumental variables – locational greenness and local environmental government policies. Estimating a two-stage regression model, our findings indicate that portfolio greenness is positively related to the operating performance of REITs. We document that if a REIT increases the weight of green properties within the portfolio by one percent, the return on assets (ROA) increases by around 3.5 percent for LEED-certified properties and by about half a percent for Energy Star-certified properties. We also find that if a REIT increases the share of green properties within the portfolio by one percent, the

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