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Green luxury goods? The economics of eco-labels in the Japanese housing market[☆]



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ABSTRACT

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Using a unique transaction database of condominiums in the Tokyo metropolitan area and a hedonic analytical framework, we find that eco-labelled buildings command a small but significant premium on both the asking and transaction prices. This finding is consistent with results from other countries but in contrast to these studies, the present analysis also incorporates buyer characteristics which provide further information on the sources of demand for eco-labelled real estate. A separate estimation by subgroups reveals that the price premium is primarily driven by wealthier households that exhibit a higher willingness-to-pay for eco-labelled condominiums, both as a total amount and as a fraction of the total sales price. Less affluent households are also shown to pay higher prices for the eco label but the effect is less pronounced. The results indicate that capitalised utility bill savings are likely to account for a large proportion of the observed premium but the higher premium paid by affluent households suggests that more intangible benefits of living in a green building may also play a role.

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1. Introduction

Research into the profitability of environmentally friendly buildings has reached a critical juncture. The seminal studies (Miller et al., 2008; Fuerst and McAllister, 2011a; Reichardt et al., 2011; Eichholtz et al., 2010, 2011; Eichholtz and Quigley 2012 to name just a few) provided first valuable insights into the pricing of sustainable real estate. However, these studies are also characterised by important limitations. Firstly, they typically focus on specific property markets in specific countries and over specific time frames which means that their results may not be readily generalisable to other sectors, places and time periods. This is particularly relevant as the majority of studies were conducted using data from the US office market, possibly because of data availability. Secondly, these studies rely on a relatively small number of data sources (notably from the CoStar Group) which provide a great wealth of information on property characteristics but are rather limited regarding the environmental performance and general sustainability indicators.

The residential sector has attracted a much smaller number of academic studies in this topic area, despite its large size and obvious relevance for both the general economy and sustainable development. The reasons for this lack of empirical evidence are not clear. Larger fragmentation of investors and a lower fraction of professional or institutional investment in the market driving the discourse around 'green value' of real estate investments may be a contributing factor. Also, housing markets are highly regulated and prone to inefficiencies in many countries which makes it more difficult to measure the contribution of sustainability and energy efficiency to prices and rents. Despite the widely accepted proposition that monetary incentives are more effective in reducing environmental harm than 'command and control' policies, (Requate and Unold (2003), the housing market seems to be lagging behind other sectors in offering an attractive business case for investments in sustainability and energy efficiency. 'Green' financial instruments are still not used widely in the residential sector which makes capitalisation into the lump-sum house price the only channel for economic rewards of sustainability. As this poses a significant risk for any upfront investment in energy efficiency, 'green value' might not be readily observable in housing markets. According to Kotchen (2006), green markets can principally be understood as a form of a private provision of a public good and as such can have either beneficial or detrimental aggregate effects depending on technology, individual wealth levels and the initial level of the public good. This proposition has been evaluated empirically, for example by Jacobsen et al. (2012) in the context of residential electricity demand. However, it may be argued that the privatised public good is at best a secondary consideration of green consumers whose decision may be guided by purely private cost savings in the form of lower utility bills and, equally private, green signalling benefits to their social peers, costumers etc. It seems likely that any observed green premium primarily reflects these private benefits.

Despite these apparent obstacles, the existing evidence on housing markets points to a significant green premium. An early study by Dian and Miranowski (1989) showed that investments in energy efficiency increase house prices. Banfi et al. (2005) published research findings indicating that residential tenants are prepared to pay up to 13% higher rent for buildings that have adopted energy-saving measures. Similarly, Fuerst et al. (2015) found a price effect of higher energy performance in the British housing market for a large sample of sales transactions in the 1995–2011 time period, indicating a 14% premium of the highest band of the Energy Performance Certificate (EPC) over the lowest band. They also find that this effect tends to be larger for terraced dwellings and flats compared to detached and semi-detached houses. Earlier, Brounen and Kok (2011) had examined the relationship between EPC ratings and sale price for 31,993 residential sale prices in 2008–2009 in the Netherlands

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