
Despite some recent conceptual studies and a modicum of empirical evidence, urban models do not currently take into account the energy efficiency of buildings. This study presents a framework for incorporating energy efficiency and energy use of buildings into urban models based on microeconomic theory and pricing mechanisms in real estate markets. Using the example of the IRPUD model, it is then demonstrated how a simplified model of energy-efficient new buildings and retrofitting existing buildings can capture the expected changes in residential and firm location, neighbourhood services, daily travel behaviour and overall greenhouse gas emissions of households.

2. An Investigation of the Relationship between Energy Performance and House Prices in the UK

This study investigates the relationship between the energy performance ratings, as measured in Energy Performance Certificates, and the sale prices of residential properties in the England and Wales. It is the first large-scale empirical study of the effect of energy labelling on property residential property prices in England and Wales. Details of transactions involving approximately 500,000 dwellings that took place in the period from 1995 to 2011 were analysed, including a large proportion that sold more than once. It is found that, compared to dwellings EPC rated G, dwellings with better EPC ratings have sold at a significant price premium. Furthermore, dwellings with high EPC ratings (C or above) have achieved significantly higher price appreciation than lower-rated properties.

3. The Investment Value of Green Buildings in Japan

This paper aims to clarify the investment value of green buildings. Specifically, it focuses on the new condominium market in the Tokyo metropolitan area. Using a hedonic framework, we find that green buildings have an added economic value of 5.8% for the asking price (producer offer price) and 4.7% for the market (transaction) price. This finding is consistent with results from other countries. As far as we are aware, this is also the first study of green buildings' economic value based on a hedonic function incorporating buyer characteristics.

Biography:
Dr Franz Fuerst is a Reader in Housing and Real Estate Finance, Cambridge University Land Society Fellow and Director of Studies at Trinity Hall. Previous academic posts include Reader in Real Estate Economics at the University of Reading, Research Associate at the City University of New York and Lecturer at the Technical University of Berlin. He has also been a Research Fellow at IRPUD and a Visiting Scholar at York University in Toronto. His industry experience includes working as Senior Consultant for BNP Paribas Real Estate where he was responsible for market research and forecasting as well as valuations and due diligence projects for large commercial real estate portfolio transactions. He is also currently a Visiting Professor at the Centre for Climate Change & Real Estate at the IREBS Business School. Franz' research interests are in 'green' real estate economics, financial analysis of sustainable investments, portfolio and risk management, real estate market forecasting as well as spatial economics. His research has been published in a broad range of journals including Ecological Economics, Environment & Planning A, Energy Policy, Real Estate Economics, Journal of Real Estate Research and Journal of Portfolio Management and has won several awards such as the Emerald Outstanding Paper Award.