

Energy Efficiency Premium Issues and Revealing the Pure Label Effect

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Climate change continues to be one of the most topical concerns of political discussion and decision-making, and measures have been taken in various parts of commercial trade to reduce energy consumption and carbon emission. Through the implementation of energy performance certificates (EPCs) for buildings in 2002, and more recent endeavors such as the CONSEED and PENNY projects, funded by Horizon 2020, the EU has a continuing focus on energy consumption, efficiency and development of policies to increase environmental sustainability.

The EPC policy is aimed to provide information and awareness regarding the energy efficiency of buildings and to create economic incentives for actors to invest in environmentally friendly improvements of buildings. The capitalization of energy efficiency in transaction prices and rents has been subject to much research in recent years. However, it is challenging to assess the policy implication of EPC implementation due to several confounding factors, such as issues related to data limitation and sample time period, together with endogeneity problems originating from omitted variables that might be correlated with energy efficiency and prices.

This paper attempts to address the issues related to the price impact of energy efficiency by applying different identification strategies using highly representative samples from the Norwegian rental market ($N = 670,000$) between 2011 and 2019 and the Norwegian sales market ($N = 750,000$) between 2010 and 2017. We find that the valuation of energy efficiency is subject to endogeneity originating from unobserved locational factors, and that dwellings with lower energy efficiency are associated with more locational bias in the rental market, while this bias is higher for the energy efficient dwellings in the sales market. Further, we find that the lower the energy efficiency, the less bias comes from unobserved quality in the sales market. Overall, improving the energy efficiency of the dwelling with one letter on the EPC rating has similar effects for both rental and sales objects, with a price impact of about 0.8-1.0%.

The signaling effect of labeling seems to have immediate, short-run, and long-run price effects and different effects are observed in different submarkets. The findings also highlight the possibility that different conclusions might be drawn due to sample selection issues related to time periods and submarkets, and that methodological and data limitations are essential factors that must be considered when assessing the effects of the EPC implementation.

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