

Environmental Effect of Empty Nest Households in Germany: An Empirical Approach

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Abstract : Housing constructions have direct and indirect environmental impacts especially caused by soil sealing and gray energy consumption related to the use of construction materials. Accordingly, the German government introduced regulations limiting additional annual soil sealing. At the same time, in many regions like metropolitan areas the demand for further housing is high and of current concern in the media and politics. It is argued that meeting this demand by making better use of the existing housing supply is more sustainable than the construction of new housing units. In this context, targeting the phenomenon of so-called over the housing of empty nest households seems worthwhile to investigate for its potential to free living space and thus, reduce the need for new housing constructions and related environmental harm. Over housing occurs if no space adjustment takes place in household lifecycle stages when children move out from home and the space formerly created for the offspring is from then on under-utilized. Although in some cases the housing space consumption might actually meet households' equilibrium preferences, frequently space-wise adjustments to the living situation doesn't take place due to transaction or information costs, habit formation, or government intervention leading to increasing costs of relocations like real estate transfer taxes or tenant protection laws keeping tenure rents below the market price. Moreover, many detached houses are not long-term designed in a way that freed up space could be rent out. Findings of this research based on socio-economic survey data, indeed, show a significant difference between the living space of empty nest and a comparison group of households which never had children. The approach used to estimate the average difference in living space is a linear regression model regressing the response variable living space on a two-dimensional categorical variable distinguishing the two groups of household types and further controls. This difference is assumed to be the under-utilized space and is extrapolated to the total amount of empty nests in the population. Supporting this result, it is found that households that move, despite market frictions impairing the relocation, after children left their home tend to decrease the living space. In the next step, only for areas with tight housing markets in Germany and high construction activity, the total under-utilized space in empty nests is estimated. Under the assumption of full substitutability of housing space in empty nests and space in new dwellings in these locations, it is argued that in a perfect market with empty nest households consuming their equilibrium demand quantity of housing space, dwelling constructions in the amount of the excess consumption of living space could be saved. This, on the other hand, would prevent environmental harm quantified in carbon dioxide equivalence units related to average constructions of detached or multi-family houses. This study would thus provide information on the amount of under-utilized space inside dwellings which is missing in public data and further estimates the external effect of over housing in environmental terms.

Keywords : empty nests, environment, Germany, households, over housing

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