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FUEL POVERTY AND ACCESS TO RECREATION ACTIVITIES

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Overview

Although research has already focused on many consequences of fuel poverty. Being in fuel poverty can have severe consequences, on health (Liddell and Morris 2010), thermal comfort, financial situation and social isolation (Hills 2011), and many other aspects of the daily lives of those affected by it. It is also found that being in fuel poverty lowers the subjective well-being of the individuals, which is the general life satisfaction. None of the existing studies evaluate the effect that fuel poverty might have on recreational activities. Energy expenses represent a burden on the budget of fuel poor households, which can lead to a decrease in other expenses (such as recreational spending) and a social isolation of these households.

Methods

Using the 2017 INSEE's database "Budgets des Familles", individual expenditures of four recreational categories (sports, leisure, shows, and intellectual activities) were observed. First, we study the determinant of leisure expenses for fuel poor and non-fuel poor households. Second, we study the impact of the energy burden (defined as the energy effort rate, this means the share of the income devoted to residential energy expenditures) on recreational spending. We use a conditional mixed process proposed by Roadman (2011) which consists on estimating jointly two equations with linkages among their error process. It uses the maximum likelihood approach to estimate the two equations. To estimate the first equation, we consider the censorship problem of the expenditures for recreational activities. We estimate simultaneously the second equation which allow to consider the endogenous problem of the energy burden variable, due to a correlation to the error term. Finally, leisure activities were separated into two categories: isolating and social activities. The CMP model was also used to test if the energy burden has an impact on isolation.

Results

We show with a Tobit model that, if the income rises by 1%, sports expenditures would rise by 2.83%, leisure expenditures would increase by 1.51%, shows expenditures would also rise by 1.94% and the intellectual expenditures would rise by 1.91%. We also show that income elasticity is much higher for non-fuel poor households. We find that the energy burden has a significant and negative effect on expenditures for recreational activities. A 10-percentage point increase in the energy effort rate results in a decrease from 3.05% (for sport activities) to 8.79% (for shows) in spending on recreational activities. finally, we find no significant difference of the energy burden on isolating or social activities.

Conclusion

The purpose of this paper is linking fuel poverty to having access and spending money on recreational activities. This study tests the impacts of the energy burden on four recreational activities categories: sport, leisure, shows and intellectual activities, and then on two different categories: isolating and social activities. We show that higher the energy burden, lower the recreational expenditures *ceteris paribus*. However, it might not have an effect on isolation, measured by isolating activities.

Keywords:

Fuel poverty; recreational activities; social isolation; Tobit model; Conditional Mixed Process Model