THE IMPACT OF PREFERENCES AND SOCIO-ECONOMIC FACTORS ON HOUSEHOLDS' TRAVEL MODE CHOICE

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Overview

The understanding of travel behaviour, and in particular citizens' choices on how to perform their routinely trips, is a fundamental step towards the decarbonisation of the transport sector. Travel mode choice affects the level of greenhouse gases emissions, as well as the local air pollution, the noise and the congestion produced by passenger cars. Moreover, this phenomenon is accentuated by the increasing urbanisation process, which will urge policies to shift passenger mobility away from private vehicles dependance. Being able to quantify how different socio-economic factors, as well as cultural and trips attributes, affect this choice is fundamental in the development of such policies.

The study relies on an European households' mobility survey conducted in Hungary, Italy, Norway, Poland and Spain in early 2018.
The aim of this study is to analyse households' travel behaviour, and in particular citizens' choices on how to perform routinely trips. An econometric model explaining households' travel mode preferences has been developed to quantify the impact of different factors. Three travel modes are analysed: private vehicle, public transport and active modes. The factors used to describe these choices include considerations on the households' preferences towards attributes of the travel mode, policy measures for sustainable mobility, transport infrastructure and transport-related concerns, the characteristics of the trip and of the households as well as the specific country where the household lives.

Methods

The survey collected data about the weekly travel routine of households with a particular attention to the specific modes used to specific destinations: the trip to workplace/university, thhe trip to grocery/shopping. Moreover, it collected information about attributes affecting travel related choices and satisfaction with the transport infrastructures. The total sample with the five countries sum up to 5028 households and is representative in each country of the national population.

The analysis is performed through a multinomial logistic regression, the impact of these factors on the probability of choosing one mode or another has been quantified.

Results

Results show that several socio-demographic and behavioural factors significantly affect the decision of mobility for the recurrent trip analysed. 58% of the population in the surveyed countries goes to the workplace/university by private vehicles, the 25% by public transport, while the remaining 17% by active modes. For the grocery shopping trip, private vehicle is chosen by 52% of the population, active modes by 44% while public transport only by 4%.The factors having a satistically significant effect on travel modes are grouped in 5 categories and the folooowing:
1) Country effects;
2) Trip characteristics, such frequency, distance and where the trip starts from;
3) The importance of differents mode attributes in deciding which mode to take:in particular, cost, comfort, flexibility, privacy, environmental concerns, reliability;
4) Satisfaction with the mobility infrastructure: parking availability, Public transport satisfaction;
5) Socio-economic factors: education, age, employment status, income, gender, children and living area;

Conclusions

People tend to act consistently with their preferences. Seekers of comfort, flexibility, privacy and reliability seem to prefer the private vehicle to other modes, while those households concerned about the environment prefer active modes or public transport. Infrastructure, and in particular how its quality is perceived, is an important factor explaining the use of a mode or the other, particularly for workplace destinations.

Moreover, socio-economic factors highlight groups for which targeted policies could increase the propensity to reduce private car use in favour of more sustainable transport modes. Families with children and fulltime workers for instance, might be targets of interest. Finally, the policies to promote this transition should account for the presence of the country specific context, since this is also a significant determinant of households' travel behaviour.

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