

COMMUTING BEHAVIOUR AND CAR OWNERSHIP IN IRELAND

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Introduction

Rapid economic, demographic and social change in Ireland over the past fifteen years, with associated increases in car dependence and congestion, has focused policy on encouraging more sustainable forms of travel. Data for journeys to work, school and college confirm the shift towards the private car. The proportions driving to work increased from 46 per cent in 1996 to 57 per cent in 2006, while the proportion of primary school students travelling as car passengers increased from 36 per cent in 1996 to 55 per cent in 2006, overtaking the proportions walking (24 per cent), which had traditionally been the primary means of transport to school for this age-group. In this context, knowledge of current travel patterns and their determinants is crucial. In a series of recent papers, ESRI researchers use micro-data from a variety of sources to examine various aspects of commuting behaviour and car ownership in Ireland.

Commuting Behaviour

Analyses of travel behaviour by individuals typically focus on the journey to work, due to the availability of data and the potential for behavioural change resulting from the routine and repetitive nature of the journey. The first¹ of two papers on commuting behaviour analyses the demographic, socio-economic and supply-side determinants of the choice of mode of transport to work in the Greater Dublin Area. Using detailed micro-data on the full population of working individuals from the 2006 Census of Population, the results indicate that household composition (particularly the presence of young children), public transport availability, car availability, journey time and work location are particularly important in explaining variation in mode choice across the working population.

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While proximity to a QBC (quality bus corridor) is significant in explaining the increased probability of travelling to work by public transport, it is insignificant in explaining cycle use, which suggests that QBCs should not be considered a substitute for dedicated cycle lanes. A number of characteristics have divergent effects on bus and train use; while those with higher levels of education are significantly less likely to travel by bus to work, they are significantly more likely to travel by train. This suggests that the bus may suffer from an image problem and that continued investment in measures such as QBCs and express bus services for commuters may be needed to improve the attractiveness of the bus as a mode of transport to work.

In the second paper^{††}, the authors extend the analysis to account for the possible endogeneity of the car ownership decision by analysing the joint decision of car ownership and mode of transport to work. Using the same micro-data from the 2006 Census of Population, they also extend the analysis to the entire country, and estimate separate models for Dublin city and county, the commuter counties of the Greater Dublin Area, other urban areas and rural areas. The analysis also incorporates information on travel costs for the first time.

As with the earlier analysis, household composition (particularly the presence of young children), public transport availability and journey time are found to be particularly important in explaining variation the car ownership-mode choice decision. The results for journey time and cost are highly significant, indicating that a change in the relative time or monetary costs of public transport relative to driving a car are likely to make these more sustainable modes more attractive to commuters. The results suggest that travel time exerts a stronger influence on individual travel behaviour. In this context, measures which seek to make more sustainable modes of transport more comparable with the private car in terms of journey times (e.g., dedicated cycle and bus lanes, more frequent public transport services, etc.) may be just as important as monetary incentives in inducing individuals to travel by more sustainable forms of transport.

Car Ownership

As the preferred mode for the majority of individuals' journey to work, it is worth examining the car ownership decision in greater detail. Using longitudinal data from the Living in Ireland Survey over the period 1995-2001, the third paper^{†††} examines the determinants of household car ownership. This was a period of rapid economic and social change in Ireland, with the proportion of households with one or more cars growing from 75 per cent to 81 per cent over the period.

There is a high degree of persistence in household car ownership decisions, with previous levels of car ownership highly significant in explaining current ownership. The income effects suggest that permanent income (the so-called 'long-run' effect) exerts a stronger and more significant effect on household car ownership than current income (the 'short-run' effect). In addition, income elasticities are found to differ by previous car ownership status, with income elasticities much higher for those with no car in the initial period. Other household characteristics such as the presence of young children and the employment status, marital status and education level of the household reference person are also important influences on household car ownership.

Summary

While the data upon which these analyses were based refer to the period before the sharp downturn in the Irish economy, the results have a number of implications for policy. In terms of encouraging more sustainable modes of transport for the journey to work, policies which result in favourable journey times for walking, cycling and public transport could be particularly effective. The persistence of household car ownership over time, as well as the importance of household characteristics such as the presence of young children, creates challenges for policymakers in trying to change behaviour. Commuting and car ownership are just two of the many transport-related decisions that have important economic and environmental implications for Ireland; further research is ongoing at the ESRI on other aspects of transport behaviour such as mode choice for other journey purposes (e.g., travel to school), as well as the impact of recent tax changes on car ownership decisions.

REFERENCES

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^{†††} NOLAN, A., 2010. [A Dynamic Analysis of Household Car Ownership in Ireland](#). Transportation Research Part A: Policy and Practice, Vol. 44, No. 6, pp. 446-455.