Transportation Research Part A 77 (2015) 358–371

Contents lists available at ScienceDirect

Transportation Research Part A

journal homepage: www.elsevier.com/locate/tra

Commuting-related fringe benefits in the Netherlands: Interrelationships and company, employee and location characteristics

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ARTICLE INFO

Article history:
Received 21 March 2014
Received in revised form 22 November 2014
Accepted 28 April 2015
Available online 23 May 2015

Keywords:
Fringe benefits
Mobility management
Telework
Flextime
Company car
Transport allowance

ABSTRACT

Mobility management measures taken by firms could potentially result in more sustainable transport choices and hence reduce traffic congestion and emissions. Fringe benefits offered to employees are a means to implement those measures. This paper explores the most common commuting-related fringe benefits currently provided by employers in the Netherlands, namely telework, flextime and allowance types like public transport passes, bicycle contribution, company cars and general financial compensation. By using the Dutch National Time Use Survey (TBO) 2005/2006, interrelationships among fringe benefits and correlations between company, employee, and (home and work) location characteristics and those employee benefits could be investigated. Logistic regressions and Tobit models are used for several estimations indicating the provision and the use of fringe benefits. The results show that relationships among fringe benefits exist, mainly between telework and flextime, but also between those flexible work arrangements and some types of commuting allowance. Furthermore, numerous job, person and geographical variables affect the probability of receiving and using the fringe benefits. For example, in the non-profit and the public sector sustainable commuting benefits are more often provided, the use of fringe benefits is strongly influenced by household composition and several allowance types show a significant correlation with the number of cars in the household. Moreover, firm location, in particular firm density, is highly related to mobility management measures taken by firms.

1. Introduction

Traffic jams, mainly during rush hours, are still an everyday problem. The behaviour of firms, by means of mobility management policies, directly or indirectly affects employees' commuting frequency, time of commuting and transport mode choice. There are several ways in which firms can offer fringe benefits to their staff. Some of them have a positive effect on traffic congestion during peak hours, like the spreading of workers' starting times, flexible working hours (Saleh and Farrell, 2005), telework (Mokhtarian et al., 1998, 2004), public transport allowances, and projects which stimulate bicycle

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http://dx.doi.org/10.1016/j.tra.2015.04.026
0965-8564/

usage, like the National Bicycle Scheme in the Netherlands (Dutch Tax Authority, 2013). Others negatively affect commuting flows, for example, company cars and employer-paid parking (Van Ommeren et al., 2006).

The effects of telework have been extensively discussed over the last decades (e.g., Mokhtarian et al., 1998, 2004). Flexible work schedules and company cars were studied as well, although to a lesser extent (e.g., Golden, 2001; Alexander et al., 2010; Gutiérrez-i-Puigarnau and Van Ommeren, 2011; Shiftan et al., 2012). However, public transport allowance, bicycle contribution, and general monetary benefits for commuting hardly received attention, except for some explorative studies on travel plans in the UK (Rye, 2002; Dickinson et al., 2003). Moreover, relationships among fringe benefits have barely been studied. Only Vanoutrive et al. (2010) explored a large quantity of mobility management measures taken by firms in Belgium. However, this paper and most studies on fringe benefits in general (Van Ommeren et al., 2006; Vanoutrive et al., 2010) do not or just to a limited extent include socioeconomic and demographic characteristics of employees.

Therefore, this paper is aimed at exploring which person, firm, and geographical factors affect the probability of receiving specific types of fringe benefits for commuting and investigating possible interrelationships among those mobility management measures. The analyses will focus on telework, work schedule flexibility, and four types of commuting-related allowance, namely company cars, public transport allowance, bicycle contribution, and general monetary allowance for commuting. This study uses the Dutch National Time Use Survey 2005/2006 which is representative of the national population. By using this dataset, person and household characteristics as well as company, job and commuting data could be taken into account. The results will provide insight into the combinations of fringe benefits which strengthen or weaken each other and into which types of companies and jobs and which types of employees are offering/accepting the particular forms of commuting-related fringe benefits. Consequently, this could be used to improve and tailor policies to promote traffic flow friendly alternatives among firms and workers who are not participating in rush hour avoidance programs yet.

The organisation of this paper is straightforward. First, a literature review illustrating each of the commuting-related fringe benefits will be shown. Second, we will describe the dataset and the variables used for the analyses. This is followed by a discussion of the results. The paper is completed with a conclusion and discussion of the main findings of the study and on future topics of research.

2. Literature

In the Netherlands several initiatives have been launched to reduce peak hour traffic. The Platform 'Slim Werken, Slim Reizen' (SWSR, Smart working, smart travelling) started in 2011. Fifty leading companies, called the B50, together with the national and regional governments, civil society organisations and employee associations have joined forces to work together on the whole package of mobility management measures (working from home, work schedule flexibility, bicycle and public transport promotion, mobility budgets covering all transport modes). The campaign called 'Het Nieuwe Werken' (HNW, the new way of working) was initiated to bring about a cultural shift in changing traditional commuting patterns and to make the advantages and opportunities of HNW known to the general public (Slim Werken and Slim Reizen, 2012). Given these initiatives, it is important to gain more insight into the effects of fringe benefits both nationally and internationally.

Therefore, this section will describe the state-of-the-art in research on each of the commuting-related fringe benefits. A literature review of company cars, some information on public transport allowances, an explanation of the Dutch National Bicycle Scheme, and a brief review of the exhaustive literature on telework and work schedule flexibility will be shown. This section concludes with a discussion on interrelationships between fringe benefits.

2.1. Company cars

Company provided cars are either cars administered and financed by companies themselves or leased cars owned by car lease companies. Nowadays, company cars in the Netherlands and Belgium are used as an incentive to attract motivated staff (Gutiérrez-i-Puigarnau and Van Ommeren, 2011; De Borger and Wuyts, 2011). On the whole, the car can be used for both professional and private trips, while fuel expenses are often paid for by the employer. Due to the heavy tax burden on workforces and the fiscal advantageous treatment of company cars, employers are often triggered to fund a company car rather than a salary increase which brings about the same financial benefit for the employee. In Britain, company provided cars comprise about 10% of the total British car fleet (Dargay and Hanly, 2007). Of all passenger cars in the Netherlands in 2011, 11% was classified as a company car. Furthermore, 42% of all new cars purchased in 2011 were registered as employer-provided cars (Statistics Netherlands, 2012).

Recently, some studies were carried out in order to find the impact of company cars on travel behaviour. Frenkel et al. (2014) found that the provision of car-related fringe benefits in Israel is linked to high car ownership, high car use intensity, non-sustainable transport modes, and high annual mileage caused by long commute distances and high frequency of long-distance trips. De Witte and Macharis (2010) established that company car drivers in Belgium are predominantly higher educated males, aged less than 50 years, and are occupying a board or management function. Ramaekers et al. (2010) observed that in their survey, 20% of the company car trips conducted on a reference day were made for private purposes. On top of that, Gutiérrez-i-Puigarnau and Van Ommeren (2011) found that the vast majority (approximately 80% in their