



Is congestion pricing fair? Consumer and citizen perspectives on equity effects



Jonas Eliasson

Department for Transport Science, KTH Royal Institute of Technology, Sweden

ARTICLE INFO

Article history:

Received 6 March 2016

Received in revised form

21 June 2016

Accepted 24 June 2016

Keywords:

Distributional effects

Equity effects

Consumer vs. citizen

Congestion charges

Congestion pricing

Fairness

ABSTRACT

This paper discusses and analyses whether congestion charges can be considered to be “fair” in different senses of the word. Two different perspectives are distinguished: the consumer perspective and the citizen perspective. The consumer perspective is the traditional one in equity analyses, and includes changes in travel costs, travel times and so on. Using data from four European cities, I show that high-income groups pay more than low-income groups, but low-income groups pay a larger share of their income. I argue that which of these distributional measures is most appropriate depends on the purpose (s) of the charging system. The citizen perspective is about individuals’ views of social issues such as equity, procedural fairness and environmental issues. I argue that an individual can be viewed as a “winner” from a citizen perspective if a reform (such as congestion pricing) is aligned with her views of what is socially desirable. Using the same data set, I analyse to what extent different income groups “win” or “lose” from a citizen perspective – i.e., to what extent congestion pricing is aligned with the societal preferences of high- and low-income groups. It turns out that these differences are small, but overall, middle-income groups “win” the most in this sense.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

Most transport economists and urban planners would agree that scarce road capacity should be priced, and would hence support congestion pricing as a way to decrease traffic jams and use scarce urban land more efficiently. There is also substantial evidence from several cities that congestion pricing indeed works as intended, and that the aggregate social benefits can by far exceed investment and operating costs, provided that the system is well designed (Danielis et al., 2012; Eliasson, 2009; Olszewski and Xie, 2005; Santos et al., 2008).

However, perhaps the most pervasive argument against congestion pricing is that it is *unfair* – a statement which can be interpreted in several different ways. The purpose of this paper is to discuss and analyse to what extent congestion pricing is “fair”, in different senses of the word. The quantitative analyses use survey data from four European cities: Stockholm and Gothenburg (Sweden), Helsinki (Finland) and Lyon (France). Stockholm and Gothenburg have operational congestion charging systems, whereas Helsinki and Lyon do not. In the survey, respondents answered a range of questions regarding their travel behaviour,

their views of fairness and several societal/political questions, and how they would vote in a hypothetical referendum about congestion pricing.

The purpose is to explore the fairness of congestion pricing from two perspectives, which can be called the *consumer* and *citizen* perspectives¹ (Nyborg, 2000; Sagoff, 1988). The consumer perspective concerns how an individual is affected personally: how much tolls she pays, how much travel time she saves, her valuation of travel time and (if specified) the benefit of the recycled revenues. The citizen perspective is about what the individual sees as “fair”, “just” or “desirable” from a *social* perspective, disregarding her own self-interest. Clearly, these two perspectives are in practice affected by each other. What an individual considers to be “fair” is often correlated with what will benefit herself – after all, (all) humans are not saints, at least not on a subconscious level. But just as clearly, opinions about societal issues are not *only* determined by self-interest. There is abundant evidence that people’s votes and behaviour are also affected by other concerns than self-interest, for example concerns about equity, environment and procedural fairness.

¹ Other terms for essentially the same distinction are “homo economicus” vs. “homo politicus”, or “personal well-being” vs. “subjective social welfare”.

E-mail address: jonas.eliasson@abe.kth.se

Table 1
Description of the surveys.

	Stockholm	Helsinki	Lyon	Gothenburg, 2012	Gothenburg, 2013
Date	Spring 2011	Spring 2011	Spring 2011	December 2012	December 2013
Method	Postal	Postal	Telephone	Postal	Postal
Number of responses	1837	1178	1500	1582	1426
Response rate	43%	39%	37%	40%	38%

Hence, congestion pricing may be seen as “unfair” in two senses, or both. First, they may be seen as unfair in a “consumer” perspective, if they hurt low income groups disproportionately: for example, if the poor pay more in tolls than the rich, if they value their times savings less, or if they get less benefit from the revenues. Such effects can either be measured in absolute terms or proportional to income. I will argue that which of these two alternatives is most appropriate depends on to what extent the charges (also) have a fiscal purpose. The consumer perspective – tolls paid, time gained and revenue recycling – is the traditional perspective on fairness in equity analyses of congestion charges, and there is an abundant literature (e.g. Eliasson and Mattsson (2006), Karlström and Franklin (2009), Levinson (2010) and Small (1992)). This perspective is analysed and discussed in the first part of the present paper (Section 3). The results from the four cities show some striking similarities, despite different system designs, travel patterns and socioeconomic urban geography.

Second, congestion charges may be seen as unfair from a “citizen” perspective. This would be the case if the support (or acceptability) of the fundamental underlying *rationality* or *justification* of congestion pricing differs across socioeconomic groups. For example, imagine a scarce resource which can be allocated through three alternative mechanisms: pricing, queueing or by some administrative/bureaucratic decision. Different individuals obviously prefer different mechanisms, for a variety of reasons (and the same individual may prefer different mechanisms in different contexts). Say that an individual can be labelled a “winner”, from a citizen point of view, when her preferred allocation mechanism is the one that is used. Similarly, citizens can be labelled “winners” when societal decisions regarding, say, environmental regulations or tax progressivity are made in consistency with their preferences as citizens (which may or may not be aligned with their “consumer” interests). The question is now whether the share of “winners” on congestion pricing is different across (socio-)economic groups. This would be the case if congestion pricing is an “elite” project, which is more consistent with what richer and/or more educated groups consider “fair”, “just” or “socially desirable”. It is known from previous research that, *ceteris paribus*, support for congestion pricing is higher among individuals who rate environmental issues as important, and who consider pricing to be a “fair” allocation instrument in other contexts. It is easy to imagine that high-income groups may view pricing as a fairer allocation mechanism than, say, administrative decisions – perhaps due to education, or self-interest, or social norms. It is also conceivable that high-income groups may place a relatively higher weight on environmental benefits. Whatever the reason, if this is the case, it would be reasonable to conclude that rich groups are “winners” from a *citizen* perspective, whether or not they are winners from a *consumer* perspective. These questions are discussed and analysed in the second part of the present paper (Section 4). The results from the four cities again show striking similarities, despite different political cultures in general and framing of the congestion pricing issue in particular.

How fairness should be defined is necessarily open for debate, and there does not seem to be any commonly accepted definition. The perspectives discussed in this paper are not the only ones that

can reasonably be included in the term “fairness”, such as procedural fairness (that the decision process is legal, democratic and transparent) and representative fairness (that all interest groups get a say in the decision process). However, while such considerations are indeed important and relevant, they are out of the scope of the present paper.

Moreover, there is no objective way to define what distributional effects, or distributional outcome, should be viewed as “fair”; there is simply no objective way to measure or define “fairness”. Indeed, it is not even evident even whether fairness should be defined in terms of final states or in terms of consequences of a policy. A quantitative analysis can describe the distributional consequences of a policy, but whether these consequences are “fair” will always be a matter of discussion. This issue is discussed further in Section 3.

2. Background and data

The data in this study comes from a survey first designed by a Swedish-French-Finnish team of researchers, and carried out in Stockholm, Lyon and Helsinki in 2011 (Hamilton et al., 2014). Later, two waves of the survey (with some minor modifications) were carried out in Gothenburg in late 2012 and late 2013, which was right before and almost one year after Gothenburg introduced its congestion pricing system (in January 2013) (Börjesson et al., 2016). The survey was presented as a general survey about several transport-related issues; to avoid policy bias, it was deliberately not presented as a survey specifically about congestion charges. Table 1 provides some general information about the surveys; more information about the data and its collection can be found in the references.

All the four cities are medium-sized cities with fairly typical European structures and transport systems. All have a historical city centre encircled by more recently populated areas. Around 80% of households have access to at least one car. Public transport shares vary, but are much higher than e.g. typical US levels in all the four cities. Transit fares are subsidised around 50%. Stockholm and Gothenburg have operational congestion charging systems, whereas Helsinki and Lyon do not.

In the survey, respondents were asked how they would vote in a hypothetical referendum about congestion charges. Respondents were presented with different systems in the four cities. In Stockholm and Gothenburg, the question referred to the actual systems. The Stockholm system was introduced in 2006, and consists of a cordon around the inner city where drivers pay €1 to €2 per passage (both directions) during weekdays, depending on time of day between 06.30 and 18.30. (The Stockholm experiences are further described in e.g. Eliasson (2008) and Börjesson et al. (2012)). The Gothenburg system, introduced in 2013, consists of a cordon with three additional charging borders located as rays out from the cordon. Drivers pay 0.8€ to 1.8€ per passage (in both directions) depending on the time of day, weekdays 06:00–18:30. (Traffic effects are described in Börjesson and Kristoffersson (2015), and public attitudes in Börjesson et al. (2016)).

In Helsinki, the question referred to a proposed system intensively debated at the time of the survey. The system was

Download English Version:

<https://daneshyari.com/en/article/7497374>

Download Persian Version:

<https://daneshyari.com/article/7497374>

[Daneshyari.com](https://daneshyari.com)