

Pricing policy: old issue, new opportunities

Pricing policy in traffic and transport represents a policy issue with a long tradition in the Netherlands and beyond. There are few policy areas which have undergone so many radical changes over the years, with various proposals having been submitted since the late 1980s, all of which were unsuccessful, usually for political reasons. Recent studies have shown, however, that pricing could potentially still play a significant role in improving sustainability, provided a number of conditions are satisfied.

The main focus of this article is the concept of charging people for road use, instead of, for example, taxing people who purchase or own vehicles. There are many different ways to go about this, with some of the examples cited in the past including rush-hour charges, toll stations, toll ports, toll ring roads and pay lanes, along with network-covering systems such as the congestion charge. This article

addresses both the role of charging transport users in promoting sustainability and the potential role communication can play in its implementation. The issues addressed include the effects of pricing policy, as well as the importance of cooperation between central, provincial and local governments and the factors which play a role in opinions on, and the acceptance of, pricing policy.

Pricing policy has an impact

Research into pricing policy tends to focus on the effects of pricing policy on indicators such as transport mileage, transport loss hours, emissions and, in some cases, social gains. Geurs and Van den Brink (2005), for example, demonstrated that a congestion charge can reduce carbon emissions caused by road transport by 10 per cent. The CPB Netherlands Bureau for Economic Policy Analysis demonstrated in a 2005 economic analysis of various forms of congestion charges that such charges can result in public economic gains of 1.5 billion euros a year, mainly in the form of positive effects on the environment, reduced congestion and fewer automobile accidents. These economic gains can be made because, at present, not all the public costs of road usage are included in the price paid by car users. This results in overconsumption of mobility, particularly in urban areas, and at specific hours of the day (e.g. the rush hour/peak times), and reducing this would bring about a number of benefits. Based on common insights, the charge most favourable to society is that which transfers the exact costs borne by other parties, i.e. the "marginal external costs" of an airline mile, to the party responsible.

Mobility and space

The first factor examined was the importance of the indirect nature of the demand for mobility. Transport is often not a goal in itself, but rather a means to perform activities in different areas. The demand for transport is largely related to the balance between supply and demand in the labour market and the housing and land markets. Specifically, labour markets are a determining factor in commuting, and land and housing markets because they determine households' choice of location. One effect of the correlation between these various markets is that pricing policy in traffic and transport will also involve economic gains for labour or housing markets. This must be taken into account in order to create the most effective possible policies. If there is market failure in these underlying markets – which is very likely in the case of labour markets and housing markets – this could potentially also result in an adjustment of optimal road prices. The standard rule mentioned above that these must be equal to the marginal external costs no longer applies.

This is validated by Tikoudis et al. (2013), who used a stylised model to demonstrate that the existence of a labour tax affects the design of the pricing policy and the economic gains or losses this pricing policy has on road transport. The study adds the

finding that spatial dimension plays a key role in this process. The level at which the supply of labour is deterred by income tax varies depending on commuting distance. Since congestion charges also have a spatially differentiated effect on the labour supply, they can help make existing income taxes less unbalancing. In a highly stylised model, approximately 35 per cent of the optimal congestion charge serves this purpose. If this change to the congestion charge to reduce imbalances in the labor market does not materialise – due to political or other reasons – the economic gains of the tool will be smaller. Tikoudis et al. (2014) also investigated the impact of imbalances in the land and housing markets on road pricing policies, and preliminary results indicate that these can be substantial as well. For this reason, policymakers should focus much more on these imbalances in their policies. Gubins and Verhoef (2014) are investigating the correlations between optimum pricing policies and optimum city size. They demonstrate that pricing policy – contrary to what the literature tends to suggest – does not necessarily result in higher urban density.

Cities actually expand, in the sense of a larger area and lower density, whenever pricing policies increase the amount of time people spend at home, which, over time, creates a demand for more living space, resulting in expanding cities and

lower population densities.

Kantor et al. (2013) demonstrate that policy measures aimed at reducing congestion (including pricing policies) will, over the long term, result in a spatial reshuffling of economic activities within the region, which could potentially reinforce spatial segregation and economies of agglomeration. Promoting mixed-use areas – which offer a combination of employment opportunities and homes, among other features – is probably less desirable than is generally assumed. The benefits (including reduced commuting mileage) do not weigh up against the disadvantages in the form of lower densities of employment and, by extension, fewer economies of agglomeration. According to Kantor et al., a significant improvement in accessibility, liveability and environmental quality is possible only by sharply increasing charges for car use and road use.

Central, provincial and local government must cooperate

Different governments tend to have different goals and objectives, even if for no other reason than the fact that their committees were chosen by different voters. However, the possible advantage of local pricing policy (in the form of superior knowledge of local conditions) is jeopardised by the disadvantages of policy competition. These

disadvantages arise from the fact that local governments do not adequately coordinate their policies with each other, focusing instead on achieving local goals and objectives. Ubbels and Verhoef (2008) demonstrate in a stylistic model that this can potentially result in substantial economic losses compared with policies set by a central government which are optimal in theory: the economic gains offered by their model constitute less than 10 per cent of those under well-coordinated policies. In some cases, they are even inferior to the situation without pricing policy. Smits (in a forthcoming publication) has developed a strategic planning model for charging mobility, which specifically incorporates the preferences of multiple stakeholders (including government and public transport companies) and their pricing options. As before, initial results of the study demonstrate that substantial time gains and carbon emission reductions can be achieved if there is proper cooperation between the parties that set the prices, compared with the situation in which each party focuses on achieving its own individual objectives.

Sustainability of transport policy can be improved

Company cars are very common in the Netherlands, with one in eight employees having been provided with one by their employer. Tax treatment of company vehicles under Dutch law

has substantial implications; for one, it increases commuting mileage (+16 per cent), along with additional mileage in employees' free time during the weekend (+8 per cent; somewhat uncertain). (Gutiérrez-i-Puigarnau & van Ommeren, 2011). Employees also opt in favour of more expensive cars (+100 per cent) than they would under normal circumstances. As Van Ommeren and Gutiérrez-i-Puigarnau (2012) demonstrate, this also increases the number of cars per household (+20 per cent). These imbalances can also be expressed in terms of money; this study estimates the annual economic loss at around 600 euros per lease vehicle. The first of their recommendations is to increase the additional tax liability on all company cars. If this is not possible for political reasons, increasing the additional tax liability for vehicles with a value exceeding 20,000 euros and reducing the additional tax liability for vehicles with a value lower than 20,000 euros could provide a solution, so that the average additional tax liability amounts would remain the same. Secondly: commuting mileage is regarded by the Dutch tax authorities – contrary to their counterparts elsewhere – as business travel. In calculating the personal use of company vehicles, it is advisable to include commuting mileage. A third recommendation concerns a standardised additional tax liability rate, whereby the additional tax

liability amount, the multiplication of the additional tax liability rate and the purchase value of the vehicle are reduced by a fixed amount for energy-efficient cars.

Taxation is also an important issue when it comes to electric vehicles. Since hybrid cars add value for consumers (representing an addition of 907 euros), support can apparently be limited to fully electric vehicles with an estimated negative added value of - 1,984 euros (Bockarjova et al., 2013). On account of the high costs for each tonne of carbon saved (approximately 300 euros), however, the effectiveness of this type of support is highly doubtful.

Charges for commercial transport
Cargo transport also generates additional costs, which means that here, too, pricing policy can result in economic gains. In terms of the impact of this type of policy, possible options are changing the transport method for container transport, using more integration in the supply of goods, and increasing efficiency (Davydenko & Tavasszy, 2013). A charge of 150 euros per tonne of carbon, for example, results in a 20 per cent reduction of carbon emissions generated by container traffic in the Rotterdam hinterland. The deterrent effect of pricing measures on the ultimate demand for goods is tempered by the option of businesses to change their distribution channels and invest more in stock. This reduces the financial

impact of measures on business and ensures that they will become less sensitive to pricing measures in the future.

Support and implementation

It is one thing to identify the public benefits of pricing policy, but actually ensuring that this policy is accepted and implemented is a whole different ballgame. Pricing policy based on carbon differentiation results in a higher acceptance rate than the absence of such a policy (Van der Werff & Steg; publication accepted). The effectiveness, efficiency and acceptance of policy all appear to be interrelated. If the financial benefits of behavioural change are emphasised, this could potentially reduce the intrinsic motivation to modify one's behaviour. The same behavioural change would then be achieved if stronger financial incentives were provided. However, emphasising the environmental benefits of behavioural change reinforces intrinsic motivation as well as inciting people to change their behaviour/engage in more environmentally friendly practices. Perceptions depend to a large extent on motivation. People are more likely to accept positive and relevant information than negative and irrelevant information. This could potentially mean that merely making people aware of the positive results of pricing policy does not necessarily result in growing acceptance among

people who are not personally invested (Bolderdijk et al.; work in progress) or who perceive no positive implications from such policy (Bolderdijk et al., 2013). It has also been demonstrated that people exhibit more positive emotions after small carbon reductions than after equivalent financial savings (Bolderdijk et al., 2012) and that they place a higher value on the carbon emissions than on the financial savings (Dogan et al., 2014). Policy acceptance and effectiveness can be increased if the positive impact on the environment is highlighted. It is important, in this context, that people who anticipate financial benefits from pricing policies are also more likely to perceive other favourable effects (Bolderdijk et al., forthcoming publication).

The media are obviously an important source of information for the general public. According to Ardiç (2013), the Dutch newspapers did not always report objectively during the debate on the congestion charge in the Netherlands. However, this is not a choice of the newspapers alone. The extent to which media coverage about pricing policy was positive or negative and what aspects of the debate were covered by the media depends in part on the debate the parties concerned were conducting at that particular time. Media analysis has demonstrated that if a pricing-policy proposal contained significant ambiguities on issues such as the

amount of the charge, implementation plans or the implications for fixed vehicle taxes, opponents were most vocal in their media commentary. Opinions – many of which were negative – would then be printed in op/ed pieces and editorials. If these types of uncertainties were to be coupled with a government campaign which mainly highlighted the positive aspects, the proposal would lose its credibility. The proposal would be more likely to receive negative comments in the media, and stakeholders with a negative attitude were given relatively more exposure. This would suggest that media strategies becomes stronger if the media receives adequate and realistic information, and key players provide support. Important loose ends at the time of communication must be avoided, as well as the impression that “this policy proposal is too good to be true”.

The effect of news coverage of road pricing on reader opinion is particularly substantial for less directly predictable effects. Readers themselves can estimate what effect a charge will have on their personal finances. However, it is more difficult for them to predict whether such a charge can actually help reduce congestion or whether it will help reduce carbon emissions. Readers’ opinions on pricing policy depend mainly on the extent to which they are informed of these less-predictable

effects (Ardic, 2014). There must therefore be a greater focus on these effects in information campaigns, with the earlier comments regarding content remaining relevant.

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