Congestion policy and public acceptability in practice: Lessons from Stockholm on the role of choice

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Abstract

This paper analyses the role of choice in forming policies and popular opinion of road pricing. The studied process is the transformation of congestion pricing in Stockholm from a life-size trial to a permanent tax introduced in August 2007. The aim of the analysis is to make the knowledge gained from practical acceptance operational as guidance to policy action. A main obstacle to road pricing is the acceptability barrier leading to political constraints regarding not only the level of sophistication of the scheme but the very introduction. Acceptability research has, as yet, focused on acceptability of a simulated scheme and revealed an overall low degree of support. Experimental research on cognitive processes exposes different aspects by confronting people with the real costs and benefits of decision-making regarding traveling and acceptance of a policy demanding a change in behaviour. The analysis is based on literature analysis and the testing of one theory of policy choice against the chronicle of events in Stockholm. The aim is to make some first steps towards defining the specific features of policy and acceptance in the field of transport. The inertia resulting from habit formation and the fact of having a choice or not over the introduction of road pricing proves interesting hypothesis to explain the dynamic nature of acceptance. Thus, the policy choice and acceptability are interrelated in a way that makes their joint treatment of essence when working towards an understanding of practical acceptance of congestion pricing.

Key words: congestion pricing, policy choice, practical acceptability, Stockholm trial

1. INTRODUCTION

Road pricing is widely embraced by transport economists as a way to resolve the state of overcrowded streets encountered in many urban areas. Acceptability is often described as the main single barrier to the practical implementation of congestion pricing. The supposedly low public acceptability causes this congestion policy to be over-looked by politicians in favor of less controversial, and unfortunately less efficient, solutions. Beyond suspicion, numerous international attempts to price roads in order to optimize urban road use have swiftly failed due to public resistance. In the case of Stockholm, not only was the political will to promote the scheme unwavering, but the public grew to accept the solution. Despite the audacious decision to give the public a say through a referendum and to set up a trial even before this occurrence, a majority of the voters living within the cordon said yes to making road pricing permanent. The whole process of implementation has been marked by political deceit (regarding both party coalitions’ intentions) but also by a high level of active participation (reinforced by public deliberation). The final result being, nevertheless, the official introduction of permanent congestion pricing on the 1st of August 2007 by an unlikely candidate: namely the conservative coalition that had traditionally opposed it. Stockholm is a highly valid study case

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for understanding the practical aspects of acceptance of road pricing. The Stockholm experience is of broader interest for analyzing economically “perfect” policy solutions promoted by experts that have trouble making sense to the general public. In its peculiar feature of mixing high participation by the public and stakeholders with an erratic policy performance and a persistent conflict between different levels of government in shaping the course of action Stockholm is also an expression of what policymaking might mean in the age of governance.

Amongst the many urban areas that struggle with congestion, few have chosen a system of pricing of the roads as a solution. Consequently, the analysis of congestion pricing cannot ignore the analysis of what lies behind - and how people react to – a change of the status quo through a reform. The central questions of this paper are: What are the driving forces behind public policy reform? Under what circumstances is reform possible? More specifically, how has the economically solid theory of road pricing been made acceptable in a practical sense? Possible subsets of questions might arise, such as: What are the factors influencing the dynamics of acceptance through the process of reform. Though not all these questions can be answered in full, this paper will attempt to shed some light on possible answers. After all, congestion pricing will not gain public acceptance nor political support by being technically flawless. A closer look at the political and public coping strategies will show a wholly realistic and often-rational response, just not the one economical theory under its more stringent assumptions was counting on. To become better at convincing people that road pricing makes sense we need to consider the process of decision-making of people whose sole, or main, concern is not understanding and sustaining congestion pricing. This paper is intended as a contribution to the debate on the practical aspects of congestion pricing where political strategy and public reaction, both to the effects of road pricing and to the way it came about, are central. The paper begins with an overview of theories of policymaking founded on different approaches to individual rationality. Subsequently a brief review of what matters to people confronted with congestion pricing and the cognitive process that underlie the decision-making tentatively defines how the problem is approached in practice with the help of theoretical frameworks. The section on policy and acceptance is concluded by some definitions to what might define an acceptability framework of transport policy of the future. Section 4 summarizes the history of the Stockholm congestion-pricing scheme and recent re-introduction. A qualitative testing of these events against a policy theory closes the section. The scope is to control the pertinence of theoretical explanations in practice and to gain insight into the why, when and how of public policy reform as emphasized by a particular theory. The final section discusses the implications of the previous analysis for better understanding how choice given or not given by an authority can influence the way people undertake the task of forming an opinion and behavioural strategy in response to a policy limiting the “right” to drive. Particular focus falls on recent explanations of rising acceptance due to habit-formation and a welcome-the-inevitable effect. Lastly, these notions and the fact that they do not imply accepting the idea behind pricing but simply the change it brings about are contextualized with respect to practical acceptance and policy.

2. METHODOLOGY AND ITS IMPLICATIONS

Two general approaches to examine the issue of social acceptability can be identified as:

(1) Analyzing public opinion through opinion polls, discussion groups or interactive experiments to identify the motivations and attitudes of the public.
Analyzing the constitution of a policy or project to understand why it is accepted or rejected, focusing on actors’ reaction or (voting-) behaviour during the implementation.

This paper has the goal of looking at the interaction between demand management policies and behaviour, partly as a response to the policy. For this reason the second approach is applied in order to verify actual acceptance rather than an abstract acceptability of a prospective measure. Analyzing specific cases implies an interest in the specific context of a project. It also involves identifying the main elements of the public-policy framework in which the project is developed. The conclusions drawn from this kind of exercise are necessarily linked to the specific, though not exclusive, conditions of the studied case. To establish the relevance of the observations for future policies a careful analysis that accounts for differences in scheme design, traveling behaviour and the prevalent social norm is needed. Nonetheless, overlooking, in view of these difficulties, the lessons that may be learnt from the Stockholm trial, referendum and reintroduction along with the popular reaction to these events would be a great mistake.

3. CONGESTION POLICY AND PUBLIC ACCEPTABILITY

Policies are made by organizations and organizations are made up by human decisions. Accordingly, policy analysis often departs from an analysis of the ability to choose based on some criteria of individual rationality. The first section reviews theories on political decision-making. Pure economic rationality based on the criteria of utility maximization, although an essential construct to facilitate analysis and modeling, has ceded its primacy to competing or alternative theories of decision-making.

3.1. Contemporary theories of political decision making

The theories of decisional processes originate from the normative theories of rational behaviour and are developed from an interaction between normative and empirical concerns. A choice is described as economically rational if preferences are stable, neatly ranked and transitive whilst the individual maximizes their utility function. This requires an out-of-reach capacity to determine the consequences of an infinite number of alternatives contemporaneously, idealized full information and an improbable readiness to allocate the time necessary to do so. The citizen-candidate framework (Osborne and Slivinsky 1996) is an example of a rational choice approach. In the model, the political candidates work under a re-election constraint. Candidates formulate policies in order to win elections, rather than winning in order to devise policies. Voters are thought to be rationally ignorant meaning they do not inform themselves on voting matters when the cost of acquiring information is greater than the benefit of the knowledge. The theory of bounded rationality began as a critique of this comprehensive view of economical rationality. Simon (1947) transformed the way of analyzing choice by reconciling strict economic benchmark rationality with empirical observations of institutional behaviour. People, according to Simon, habitually choose a satisficing alternative in place of an optimal one (1955). There is a cognitive cost to reaching an optimal decision that only an “olympic man” would be willing to face. Furthermore, the traditional rationality only focuses on the outcome while Simon acknowledges the decisional process. Thereby factors like time, emotion, attention, exogenous change and salience of the issue are taken into consideration. Akin to Simon and his focus on imperfect and dispersed
knowledge and on subsystems in organizations are the theories of incrementalism. Lindblom (1979) has focused on policy making through small steps, based on a logic of trial and error and a confused relationship between goal and means. He calls his theory disjointed incrementalism to illustrate how change is based on the past as well as mistake avoidance. Yet, other theories describe anarchic decision-making, which is less of a critic of rationality and more of a logic (or lack of it) of its own. In the garbage can theory (Cohen et al. 1972), decisions are not the outcome of a unified and organized process. Instead, the model envisages four independent streams of decision-making: problems, solutions, participants and choice opportunities. Choices are the disorderly product of the interaction between these streams. Quite provocatively, decision making is described as the loose interaction of problems seeking solutions, issues looking for choice opportunities, solutions searching for problems and participants looking for something to do. Agenda setting is another current of research looking into the coming about of policies in the garbage can tradition. Kingdon (1995) describes how an idea can only become reality when placed on the political agenda. The position within the agenda is a function of independent streams of problems, policies and politics. These refer to the seriousness and framing of the problem, the feasibility and acceptability of competing policies and finally the political influence on agendas like advocacy and change in government and public opinion. A planned policy has a better chance of success if focusing on all streams but still can only be attained when a window of opportunity opens.

Table 1. Comparison between four models of decision-making

<table>
<thead>
<tr>
<th>Dimensions of decision-making</th>
<th>Rational model</th>
<th>Bounded rationality</th>
<th>Incrementalism</th>
<th>Garbage Can</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>Clear and consistent</td>
<td>Unforeseeable and “good enough”</td>
<td>Several goals and means turning into goals</td>
<td>Ambiguous and coincidental</td>
</tr>
<tr>
<td>Decision Basis</td>
<td>Based on full information</td>
<td>Based on limited knowledge and standard procedure</td>
<td>Driven by routine and a trial/error logic</td>
<td>Based on coincidence</td>
</tr>
<tr>
<td>Decision outcome</td>
<td>Optimization of global goal</td>
<td>Satisficing among sub-goals</td>
<td>Marginal adjustment against known politics</td>
<td>Disordered and separated from problem</td>
</tr>
<tr>
<td>Participation</td>
<td>Stable</td>
<td>Stable</td>
<td>Stable</td>
<td>Unstable</td>
</tr>
<tr>
<td>Policy ideology</td>
<td>Efficiency, apply the rules of economics to the life of politics</td>
<td>Standard answers to complex problems, learning from experience.</td>
<td>Predictability, muddling through complex problems and risk aversion</td>
<td>Anti-bureaucratic, creativity and open participation</td>
</tr>
</tbody>
</table>

Each of these models highlight specific traits of the reality of decision-making while disregarding others. Empirical research on decisional processes suggests that the use of more than one model in the analysis gives a more complete description of the process (Brunsson 1998, Reddick 2003 for state budgeting).
It can be concluded that individual behaviour in choice situations is not always rational in the way assumed in utility theory. There are limitations to human information processing capability and the ability to predict the outcome of all alternatives. By extension, aggregate behaviour might produce, according to the reviewed models, standardized or disorganized decision-making that does not end up producing the optimal solution. Instead of underlining, the apparent differences between these theories of political action we might look at the common objective. As expressed by Pierson "Often, the differences between rational-choice and ostensibly competing approaches concerns the explicitness of certain assumptions and the preferred methodologies rather than more fundamental disagreements about the major determinants of policy action." (Pierson 1993, pp 598). Rather, the goal of each of these approaches is to reveal what motivates behaviour or in short, what incentives should be encouraged to achieve a favored outcome, based on a certain view of the world. Policies may be powerful packages of incentives and resources with the power to influence everyone from the governing elite to interest groups and individuals.

3.2 Origins of the public resistance to road pricing

The basic explanation to congestion is that whenever a scarce and valued good is free or under priced, demand will outstrip supply. The theory on road pricing and a first approximation of the reasons to refuse it are reviewed in the first section. Experience shows that the arguments against road pricing have out weighted those in favor. This is the argument of the second section. Results from the related literature on acceptance are reported followed by a less common look at the cognitive process that lies behind the framing of the problem.

3.2.1 Mobility is a basic right and I am not to be blamed for congestion...

Why is the public so reluctant to accept urban road pricing and its economical underpinnings? In order to designate an answer to this, within acceptability research, familiar query the theory of road pricing needs to be briefly reassessed. Congestion pricing is a fee to access a road network with the aim to impose a more optimal use of the streets by forcing surplus users off them. The presence of externalities causes the marginal social cost to surpass the marginal private cost so that the free market equilibrium will no longer coincide with the social optimum. Normally people disregard the negative external effects caused by their traveling. The inefficiency resulting from that unawareness constitutes the basic theoretical rational for road pricing. By introducing a charging mechanism related directly to the use of a road it is possible to force all travelers to consider their external costs. Despite this, mobility is often considered a basic need where it defines a minimum level of transport quality that all should be entitled to. Attempts to limit this right typically causes negative feelings whereas people do not seem to blame themselves for causing congestion but only their fellow travelers.

3.2.2 Acceptance as a decision and as a process – the source of opposition

Acceptance research covers a broad range of subjects and cannot be assigned to a single field such as psychology or sociology. The literature on acceptability of road pricing schemes is extensive. In essence, it has verified that the level of acceptance is quite low. An account of the factors influencing acceptability is necessarily lengthy. Infrastructure investments usually settle for a passive consent for its construction. Demand management, instead, needs active
cooperation on behalf of the groups called to make a sacrifice in the name of managing congestion. However, if a referendum is the chosen method of participation all members of society are called to vote. The choice to accept road pricing can be said to depend, first, on the attributes of the proposed road pricing scheme and its perceived effects. This is the main feature of most research on acceptability. A second level of analysis should focus on the process of reaching this decision. An understanding of the cognitive process will help us relate the findings to a larger framework of behaviourally realistic decision-making. Among the findings of the first level of analysis we find; perception of problem/costs (Schlag and Schade 2000) and awareness of the alternatives (Härsmann 2003); conviction of effectiveness to resolve problem/cost (Steg 2003); fear of infringement of freedom (Jakobsson et al. 2000); fairness concerns (Oberholzer-Gee and Weck-Hannemann 2002) equity considerations (Banister 1994, Langmyhr 1997); implications of the car for lifestyle or car dependency (Steg 2003); influence of social norms or what significant others think of the scheme (Schade and Schlag 2003) and that public acceptability increases if the revenue is used in a convincing manner (Jones 1991, Lyons et al., 2004). Subsequently the acceptability regarding the details of pricing have been unraveled looking at the level of charge, revenue use and other aspects of the design of the scheme. To this aim, research has showed how, generally, people prefer a simple pricing scheme with a minimum degree of differentiation between users (Bonsall et al. 2006). There are many attempts to connect acceptance to personal characteristics such as mode of travel, income, age or household location. The clearest correlation appears to be that socio-economic status does not influence, while frequency of car use does lessen, the acceptance of congestion pricing (Armelius 2006). At present, the research hardly leaves out considerations of selfishness compared to a social perspective to describe mobility demand and the trade-off between different modes of traveling (Jaensirisak et al. 2003). For instance, environmental attitudes or ecological norms are positively related to people’s willingness to reduce car use or to support measures aimed at reducing car traveling (Steg and Vlek 1997). The weakness in the research is mainly that no conclusion is reached neither on the specific impact of these factors on acceptability nor on the internal relationship between the factors (Bamberg and Rolle 2003). This is where the process approach can shed some light on how people think of road pricing namely by describing how they reason. Heuristics of choice are the rules people set up to deal with intricate choices in a complicated world. If transport economists, eager to deal with congestion, were to understand that people indeed maximize various variables, not just their utility, perhaps they would instead focus on communicating a policy that made sense to the public. A review of the decision-making process could help contextualizing the acceptability research. The cognitive process, according to McFadden (1999), is the mental mechanism that defines the cognitive task and the role of perceptions, beliefs, attitudes, preferences and motives in performing the task to produce a choice. A familiar heuristic is the satisficing solution of Simon where the individual settles for an alternative good enough according to his aspirations. This solution does not necessarily correspond to a global optimum. The bottom line is that the individual, according to a psychological “deconstructive” logic, creates his own choice situation. This might mean the chosen alternative is made the best or “dominant” one through the process even if it is not in truth such (Svenson 1992). This is related to the finding that there is a trade-off between the cognitive effort - and the benefit of - making the correct choice (Payne et al. 1993). Experimental research shows that the way questions are framed influence the answer and can create dependencies among alternatives. People care more about losses than gains even when the object they are contending is the very same in each of the to situations
(Tversky and Kahneman 1974). The framing of decisions becomes more complex when a decision has an important magnitude associated with it (Jones P.M. 1991).

To conclude it could be noted that any theory of action must consider that all actors need to cope with overwhelming complexity and uncertainty. The actors as illustrated above will draw on a wide range of cognitive shortcuts to make sense of the social world.

3.3 Towards a relation between public and political acceptability in the field of transport

What are the specific features of policies that involve transportation? Infrastructure is an intermediate input that does everything from facilitating spatial interaction to enabling industrial production. Any public policy that encourages long term interventions and a high level of interdependence are more likely to create dependence on behalf of the public subject to the policy. In fact, reforms in sectors like transportation and housing can encourage people to make significant investment to adjust to it and engage in a re-coordination of their lives, not easily reversed. (Pierson 1993). This way a policy creates commitment through generating sunk costs that push them into behavioural paths that are hard to change. The distinctive nature of transport makes any policy aimed at increasing prices and reducing access sensitive. The demand for transportation and mobility is a demand derived from the services to which it gives access. However, the demand for driving can also be a desire for the specific advantages of private driving. Among these, we find privacy, carrying capacity and velocity. Steg (2005) emphasizes the symbolic and affective functions satisfied by car use as opposed to purely instrumental justifications like velocity and flexibility of departure. In addition, Button (2006) notes how transport infrastructure, contrarily to what people would like to think, is not a public good. Roads are only non-rival until they become congested. Likewise, they are only non-excludable until the politicians in office decide to preclude the access to some urban area for some sound reason. What is more our society seems to have become car dependent (Goodwin 1997) to imply a large degree of habitual driving and social learning in the key of flexibility, velocity and individual goals. A great deal of the public response to any transport policy is colored by the special relationship people nurture with their private vehicle. Another problem with travel mode choice is that past experience might influence on future behaviour (Gärling et al. 1998). When a choice is performed repeatedly the suspicion that the alternative is chosen by habit rather than by merit, arises. A large extent of traveling has a repetitive nature. This causes many people to not be conscious of their alternatives (Heggie 1983). Habit in the field of transport might cause inertia meaning that people become dependent on their current choice (Daly and Rohr 1998). Policies trying to encourage a shift to other transport modes will not stand a chance unless significant investment is used to make alternatives firstly known and secondly viable and attractive. Information campaigning can inform of alternative modes but also convey the actual costs of driving compared to the collective benefits of public transport. The opinion of congestion pricing might ultimately become a highly political matter. The way a scheme is introduced, the level of choice and how much faith people have in the government at times becomes decisive for acceptability. Therefore, the political performance is essential to the success of a scheme. Generally, people use a range of heuristics in making political judgments among which partisanship, ideology and salience of political issues (Huckfeldt et al. 2005). Transport appears to be no exception. Political action cannot afford to overlook the lessons from past research if the aim is to motivate a change in behaviour towards a more socially and environmentally responsible way of traveling.
4. STOCKHOLM TRIAL AND PERMANENT CONGESTION TAX

In the previous sections we have seen how charges for transport, especially urban, have traditionally had little connection to its actual cost. Attempts to bring the private cost in line with its social counterpart have in a rare but growing amount of cases taken the form of a direct fee on road use. This leads to this paper's endeavor to define the distinctive features of transport policy and acceptance in practice through the study of the Stockholm trial and congestion tax. The following sections will pinpoint the origin of the idea of using tolls to control demand, but still mostly to gain funds for infrastructure investment, to the nineties. The prospect was rekindled in 2002 although under a more environmentally oriented profile. A rare set of circumstances has made road pricing acceptable to the public thus allowing for the transformation from a trial into a permanent demand management measure. Lastly the decision making process of the congestion taxation is weighted against a theoretical construct like the garbage can framework. Such an analysis can highlight the features of political timing and public participation that apparently has weighted more for the outcome of the scheme than the very design of the policy.

4.1 Origins of the Stockholm trial

Stockholm has a unique constitution, founded on five islands, that makes the influx of residents difficult to deal with from a transportation point of view. About 60 per cent of the working places in the city and a third out of the county are in the city centre. Out of the 318 000 people working downtown less than a third (29 %) live there while the rest commute from outside. The county has a population of 1.8 million people, and 3 million live within two hours commuting distance. The city of Stockholm has a population of 765 000 while the downtown area, which is mostly surrounded by water and nowadays enclosed by a congestion cordon, is 34 square kilometers with 285 000 inhabitants (USK 2004). The Stockholm trial and congestion tax are the latest, and most radical, measures in a long series of public discussions and government investigations on ways to relieve the region's traffic problems. The political dialogue has at times turned into trading of votes or favors between the political parties (logrolling). This occurred at the local level in 1988 when the local Stockholm Party (SP) won a sufficient amount of votes (6,8%) to detain a balancing position in the city council. Their association with the Social Democrats (SD) led to negotiations with the national government and surrounding municipalities on an infrastructure package for Stockholm. This coalition, and with it the policy package, broke down with SP leaving the agreement in 1991. In its place a much disputed transport investment package, the “Dennis package”, including a system of road tolls and the construction of two major ring roads was adopted in 1992. The package was the result of a broad but fragile agreement in the County of Stockholm between Social democrats, Liberals and Conservatives. The pricing system was deliberately designed to be a compromise between the two objectives of raising infrastructure funds and reducing traffic levels in the inner city. However, the three parties had completely different and ultimately unalterable priorities. Growing political difficulties, the deep economic recession and criticism from environmental organizations and the public caused the government to abandon the Dennis package in 1997. History repeated itself, this time at the national level, in the election for parliament in 2002 where the Green Party (4,7% of votes) won a similarly influential position as the SP in the eighties. This time over the Greens together with the Left Party made a pact to support the SD government. In exchange, they wanted the realization of a program of reform,
one point being the implementation of a full-scale road tolling trial in Stockholm. This promise was fulfilled with the presentation of the Law on congestion in 2004 that was shortly passed by parliament. The instant the trial was announced to the public in October 2002 the Swedish Automobile Association (SAA), critical of the scheme, raised the required 30 000 votes to hold a local referendum, set by the city for the next election date; September 2006. The original idea of a charge was hastily transformed into a tax to exclude the idea of any recompense of sorts to the car drivers in form of road investment. As a result, the whole planning of events slipped out of the hands of the local government as a municipality is not allowed to tax commuting residents of surrounding municipalities. All decisions are transferred to the national, first of all the procurement of the automatic toll/camera system awarded to IBM in 2004. Due to delays caused by legal problems with the procurement, the trials’ duration shrunk from fourteen to only seven months beginning January 3, 2006. The public transport-boosting component started in the autumn of 2005 as a separate measure. The official use of the term trial “försök” implies that the scheme was made out as a demonstration with the intention to affect public opinion. This aim makes it of outmost significance when considering the acceptability features. Considering also the incisiveness of the cordon - where the 280 000 residents within the area make up over a third of all inhabitants in the municipality are required to pay the full fee - it is clear that understanding what made it tolerable to people is appealing to researchers.

4.2 From trial to permanent tax

The trial has had a strong influence on traveling behaviour with a 22 % drop in the crossings of the trial borders. There appear to have been no permanent effects as traveling returned to the pre-trial levels as soon as the trial was concluded. On the day of the general election of September 17th 2006, shortly after the end of the trial, 15 local referenda were held on the continuation of congestion pricing in Stockholm. The result of the referendum in the municipality of Stockholm was 53% positive. This was the only referendum with a popular initiative at its base as well as the sole result considered by the sitting government. The additional 14 referenda held in surrounding municipalities on the same day all revealed a negative majority and the overall result was 39,8% yes (www.val.cscs.se). These referenda were mostly held in conservative municipalities taking the form of a protest against the exclusion from the decision making process of the trial. The centre-right coalition that had declared itself against congestion pricing wanted to consider the votes of the whole county. Notwithstanding the pronounced differences in opinion between centre and periphery, in general, with the progressions of the trial, the positive votes increased. Many declared that their opinion of the trial changed during as opposed to before it. As noted above, acceptance is improbable without an alternative to private driving. Extending the supply of public transport, warranted or not, turned out to be an important factor for increasing acceptance. Knowing that a referendum would be held made one in four become more positive. Additionally, the fact that the pricing was presented as a temporary trial with a clear end-point also had a sizeable effect. This is illustrated in the below figure.
**Figure 1.** Factors that influence personal attitude towards the trial. Subjects state if the three options influence their opinion and if the answer is yes, whether they become more positive or more negative towards the trial. (Adapted from USK, 21/06-2006. 1600 interviews)

The referenda on congestion pricing were followed by a transitory confusion on their practical consequence. The parliament was not obliged to obey the outcome, as referenda in Sweden are merely consultative. Taken as a whole the results were negative and the general election had brought the centre-right coalition, that had strongly opposed the scheme in the past, into office. Unexpectedly, the new government announced that congestion pricing would be reinstated, though as a permanent tax with most features intact from the former design. The logic shifted as the revenue would be utilized to finance infrastructure investment, notably with a new by-pass road similar to former schemes where pricing is merely a source of finance. This had never explicitly been part of the red-green plan where the focus had been on pricing to control demand and promoting non-car traveling. Whereas the congestion tax during the trial was the central measure it is presented in the permanent tax as one of four in a traffic solution package for Stockholm including also a) the appointment of a negotiator on the theme of future infrastructure solutions, b) extended rail capacity for the centre with the decision of May 31st of 2007 to build “Citybanan” a new cityrail and c) investigation of a law on the introduction at the local and regional level of fees to finance transport infrastructure. The reintroduction of pricing by a party traditionally opposing it largely made a replica of the socialist betrayal when introducing a pricing scheme just after promising the opposite in 2002. Although it is yet too early to draw any conclusions as of the changes in acceptability due to the alterations in the scheme some observations are in place. Anecdotal evidence would suggest that acceptance is assured the second time around for the case of Stockholm. None of the sabotage attempts or protests from the trial days has occurred with the introduction of the tax. The argumentative SAA declares it will not oppose the Stockholm tax but instead concentrate on preventing introduction elsewhere. The main newspapers are not acknowledging the tax as problematic

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1 The government proposition 20006/07:109 on the “introduction of a congestion tax in Stockholm” was approved by the parliament on June 20th 2007.
when talking of transport issues and the incessant reporting of survey results on acceptance levels has ceased. Previous research on acceptability of practical congestion solutions have underlined the importance of presenting pricing as a temporary solution to a clear-cut problem and offering an opportunity to experience the effectiveness of a solution for gaining acceptance.

Table 2. Confrontation between the Stockholm trial and the permanent congestion tax

<table>
<thead>
<tr>
<th>Features</th>
<th>Red-green trial</th>
<th>Center-right Permanent tax</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanence</td>
<td>3rd January – 31st July 2006</td>
<td>Permanent from 1 August 2007 with a planned ten year duration</td>
</tr>
<tr>
<td>Scope</td>
<td>Reduce congestion, improve accessibility and environment</td>
<td>Enable road and rail construction to resolve long term traffic problems</td>
</tr>
<tr>
<td>Public involvement</td>
<td>Local referenda of which one official (Stockholm municipality) and fourteen autonomous</td>
<td>None, except Local referenda</td>
</tr>
<tr>
<td>Revenue use</td>
<td>In official referendum: back to the region and upgrade public transport, In fourteen unofficial referenda: No statement</td>
<td>Infrastructure investment</td>
</tr>
<tr>
<td>Complementary measures</td>
<td>Extended public transit routes with lowered one-level charge, increased parking spaces</td>
<td>Part of infrastructure extension package with potential introduction of local/regional pricing</td>
</tr>
<tr>
<td>User differentiation and exemptions</td>
<td>Time differentiated charge, No vehicle differentiation, exemptions for taxis, environmental cars, handicap transport, vehicles +14 tons and foreign vehicles</td>
<td>Same time/vehicle differentiation, exemption for environmental cars, vehicles +14 tons and foreign vehicles</td>
</tr>
<tr>
<td>Ideology</td>
<td>Environmental concern and public transport</td>
<td>Tax deductible fee for driving in profession</td>
</tr>
</tbody>
</table>

This paper would like to bring forth inertia from habit formation and acceptance from cognitive dissonance reduction (Schade and Baum 2007) as alternative explanations of the empirical observation that acceptance increases along with the implementation. These ideas will be discussed further in the discussion part in the context of reconnecting the theories reviewed in the first section with practical concerns.

4.3 Stockholm trial and congestion tax as a Garbage can framework?

The garbage can model carries an important appeal in that it fits very well with the functioning of government (Kingdon 1995). However, its description of organized anarchy based on chaotic decision is unlikely to be encountered in its pure form in reality. Theoretical frameworks of decision-making in institutional settings can draw attention to key features of policy processes. A testing of these theories against reality is, on the other hand, a way to ascertain if the stylized description does apply to real events. The Garbage can was chosen as the first theory to undergo a test against real-life politics for the following reasons: a) for considering the rational choice model to be a poor characterization of the decision making
process in line with experience from experimental psychology, b) for allowing the dimension of
time to enter into the analysis through the idea of policy windows during which policies can be
made, c) for recognizing the importance of policy entrepreneurs that enable the coupling of
streams in order to produce a change in policy and d) for assuming that solutions may exist
prior to the apparition of problems. Congestion pricing could be seen as a pre-existing solution
in the way that it is technically accomplished and in theory just waiting to be implemented
wherever congestion accumulates. It has gained the faith of experts but cannot find people in
the right position to promote it and rarely convinces the public. A policy entrepreneur is needed
to enable the coupling of problems, policies and politics. The necessary trait of the entrepreneur
is being in position to be heard, being in possession of the power to form coalitions and
showing persistence in promoting her solution. Legal or institutional status quo situations are
often prohibitive for road pricing policies (Frey 2003). A change in politics may therefore be
necessary to bring about the legal capability to introduce pricing. However, if no candidate
assumes the risk of promoting pricing, persuading people of its merits and forming the
necessary coalitions to legislate, road pricing will probably remain dormant. It is clear,
considering the complexity of the problem that the solution (pricing) could not be invented for
the moment in which congestion becomes a problem but is instead a lingering solution that
needs persistence to prevail on its opposition. In the case of Stockholm, the streams came
together for a momentary policy window in 2002. The voting outcome (politics) provided the
green party with a bargaining power out of proportion with respect to their popular support.
They sustained their policy of taxing the roads to resolve congestion and through their coalition
with the social democrats managed to legislate against the will of the general public. The
problem stream was to some extent satiated by the increasing discontent with the traffic
situation by politicians as well as the public. Moreover, all former solutions had failed due to a
lack of political consensus corresponding to the prevision by Kingdon of the necessity to get
the proposed solution on the political agenda even if it appears extreme. The public was, in this
sense, aware of the difficulties in finding an alternative solution so the ground was prepared for
the controversial trial. The process of softening up thus proved essential. The proposals and
attempts to improve the transport network of the eighties introduced the idea of reform to the
public and showed the impossibility of a quick and pain-free solution to the problem congestion
and infrastructure shortage.

Naturally, not all observations from Stockholm fit neatly into the framework. The success of
the reform and its wide participation through public deliberation and local referenda go against
the prediction of the garbage can theory. According to March and Olsen (1989) more
participants suggests a higher risk of objection and intrusion from lobbyist groups. The
prevision has proven right to the extent that the SAA were better organized in their protest than
the general public and tried to stop or at least delay the introduction through protesting and
requesting a referenda. Apart from the greater efficiency of small working groups, the theory is
not able to explain why the comprehensive reform came through in spite of the wide
participation.

5. CHOICE OR NO CHOICE AS DETERMINANTS OF ACCEPTANCE

This paper has reviewed the many non-rational features of decision-making both as political
policies and as individual judgment with particular regard to acceptance of congestion policies.
It is showed how these are based on maximizing other aspects than utility and that limits in
cognitive capacity causes outcomes to fall short of optimal. There are large difficulties inherent
in identifying the regularities of choice behaviour needed to generate a general theory of decision behaviour (Simon 1990). What can be concluded from the literature examined in this paper is that heuristics of choice, like loss aversion and habit formations are essential to understanding peoples’ reaction to demand management mechanisms. Research into the cognitive process behind decisions, regarding traveling and acceptance of traveling policies, gives a more profound picture of how people reason. In general, the research on decision through modeling needs to reconcile two objectives, namely prediction and behavioural realism. The risk of incorporating too big a dose of behavioral evidence is the loss of the efficiency optimizing idea at the heart of first best pricing (Milne et al. 2001). What is to gain is a better guidance to policy implementation. From the un-complete representation of institutional decision making, given for instance in the garbage can model, we can learn that problems are not simply brought up and studied with possible solutions weighed and then decisions made. Different streams need to come together in order for a choice to be produced and expert advisers are only one component of the process. We might better appreciate that congestion pricing suffers from a lack of strong advocates (King et al. 2007) due to the high political cost of promoting pricing. Further analysis of the citizen candidate framework might shed some light on the precise cost-benefit evaluation a candidate makes before entering the political arena with a congestion scheme. An incremental logic might teach us something on the process of softening up the public resistance to a new solution. Even though not acceptable the first time around promoters of a viable solution should not give up. Kingdon (1995) compares agenda setting to a biological selection of the most skillful and persistent advocates for a solution. These observations need more comprehensive testing in order to prove their utility to the understanding of acceptability and its connections to policy-making.

Evidence from fifty years of experimental research indicates that people do not change their behavior or make decisions based on “rational evidence”. Unless this evidence is compatible with individual wishes and beliefs and framed according to thoughts about causes and effects. Acceptability research has underlined the pervasiveness of psychological factors such as attitude, social norm and habit in forming an opinion of road pricing. This paper aims to build on the knowledge reached in psychological research to gain a better understanding of how people may change their mind regarding congestion pricing. Recent acceptability research seems to move towards an understanding of the dynamic nature of accepting pricing where the first fact to analyze is the observed increase in acceptance with implementation. Therefore, a first connection between decision-making research, acceptance and policy making in practice can be reached. Two interesting lines of research are how loss aversion and cognitive dissonance theory might clarify rising acceptance over time. For instance: the endowment effect will confer a superior value to any object in ones own possession compared to when the object is not owned by the actor. The sensation of loss relative to the status quo appears very large relative to gains, why any analysis must take the original mode of transportation into consideration. King et al. (2007) describes how the creation of a new status quo in which people are getting used to paying congestion fees (as drivers) and enjoying less congestion (including public travelers) can sustain acceptance of road pricing. This is fully in line with the influential works on loss aversion by Kahneman et al. (1991). People are prepared to fight to keep a benefit they are enjoying while they are less prepared to struggle to get it back once it is lost. The existence of an endowment effect causes the willingness to accept to exceed the willingness to pay (Kahneman et al. 1991). The effect of habit in mode decision-making might be a partial explanation for not wanting to re-consider the choice made in the past and be forced
to assess yet again the benefits and costs of changing. The stronger the habits of choosing a particular mode, the less information and cognitive effort will go into the decision making process (Verplanken et al. 1997). This might explain the seaming inertia in Stockholm where no protest was organized to protest against the permanent congestion tax even though it was introduced “through the back door” without public consultation or information campaigns justifying the political move. The trial might very well have proven an important factor behind the formation of new traveling habits. What policy advice may be drawn from this? The hypothesis might be read as a (patronizing) invitation to disregard the initial public protest and count on the subsequent attachment to the new status quo and the sluggishness in seeking change. This is not the aim of this paper. In fact, another way to read the scenario is the acknowledgement that people may be perfectly rational in not dedicating energy to understanding congestion pricing and therefore not voting to their own best economical interest. There are many choice dimensions inherent in travel behaviour and even the very process of decision-making is influenced by the context of the task to solve.

One of the most influential theories maintaining the consistency between behaviour and attitude is Festingers’ cognitive dissonance theory (1954). The basic idea is that people need to create consistency between attitude and action to avoid unpleasant feelings. The theory foresees that when there is incoherence between idea and deed it is the attitude that will be adjusted to better relate to behaviour. Survey results show that a positive attitude towards road pricing does not to the full extent become voting. The dissonance theory postulates have been used by Schade and Baum (2007) to show how the lack of freedom to choose road pricing influences upon the level of acceptance. In their hypothetical test of the attitude to a pricing system, dissonance theory explained reactions to a much larger extent than reactance theory. In fact, the more inevitable the introduction of road pricing was the more positive people were towards it. In other words, the appeal was a mental construction to accommodate the unpreventable arrival of an unwanted change of the status quo. Starting to accept change means lessening the cognitive dissonance rather than increasing it through insisting upon the disliking. This represents an important empirical testing of the common observation that acceptance of pricing grows to be more positive with the course of implementation. This would imply that offering a choice, for instance, through a referendum is harmful for the acceptance levels. What is unclear is how to weight the possible positive effects that arise from referendum. A referendum is risky in that it provides an opportunity to express the dissonance and because the outcome is made less certain, by definition. Nevertheless, in the literature focusing on the institutional barriers to congestion pricing, a referendum is an interruption of the status quo that is more than welcome for the supporters of pricing (Frey 2003). Experience from referenda has given ambiguous results whereas the support for the double cordon in Edinburgh shrank considerably during the consultation process (Ryley and Gjersoe 2006). In the referendum where only central residents, the most advantaged by the design, were allowed to vote, 74% voted against it. On the other hand, the Stockholm referenda caused widespread discussions and “forced” people to make up their mind based, in part, on experience from seven months of obligatory pricing. Despite a tendency to vote according to political preference, with time these party fidelities grew weaker. Voting along with ones preferred candidate might be a logical attempt to save cognitive energy where the outcome of the vote was so unsure as to justify it. On the whole, resistance weakened moving closer to the vote as an indication that some effect, like habit renewal, the symbolic value of voting or the fact that the scheme was temporary, prevailed over the negative aspect of having a reform imposed from above. More research is needed to understand the intricate role
of a referendum in facilitating or hampering the introduction of road pricing. The key might very well lie in the careful analysis of practical cases to understand in what situations a referendum would be constructive. The above considerations evidently need to consider specific conditions before pondering a generalization of the results. Differences in the portion of people using the car in the status quo makes a large difference in how many people will actually need to alter their habits when congestion pricing is imposed. Likewise, each subgroup of a population might nurture a different degree of flexibility in changing mode or ill feelings towards reforms based on everything from personal characteristics to the social norm in a particular share of society.

Hence, political processes come to resemble some punctuated equilibrium, where substantial change is only possible in 'policy windows' (Kingdon 1995) before institutions and policies once again settle down on to a new path, and inertia becomes the norm. The challenge for future research is to better understand change, both how it comes about in policy and what makes people change their mind and behaviour towards more sustainable transport choices. The complexity of reforming transport systems and reducing the centrality of private mobility calls for a systemic approach where social norms, spatial characteristics, mobility needs and available technology needs to come together to form policy interventions responsive to the different motivations and constraints of the sub-groups that make up a population.

In the end the mechanisms reviewed in this paper, above all dissonance reduction and habit-inertia, do not convince people to accept pricing for the merit of the argumentation in favour of congestion reduction. Acceptance runs the risk of being a mere reduction in cognitive effort to deal with ambiguous information or just plain habit formation with a new (slower and less attractive) mode. At the same time, success is assured for congestion pricing as people will oblige the rules of it and not protest against the policy. Is this extraneous acceptance good enough for the advocates of congestion pricing?

REFERENCES


