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Are There Practicable Demand-Revealing Mechanisms?

Peter Bohm

Has the current interest in demand revelation mechanisms for public goods produced instruments that can actually be used for decision-making in the public sector? So far, it does not seem so. Technical sophistication at the expense of practicability seems to characterize most of the theoretical research. The empirical research has either used hypothetical approaches or laboratory settings; hence, there is hardly enough evidence to convince politicians that they should turn over important public good issues to be determined by completely new methods for public decision-making.

In this paper, we present two nonhypothetical, nonlaboratory applications of what seems to be a practicable mechanism for revealing the demand for public goods. Both refer to real public goods, the production and financing of which are determined by the demand-revealing process.

1. The Applicability of Existing Methods

The theoretical and practical problems of estimating willingness to pay (WTP) for public goods have attracted a great deal of attention for quite some time now. The reasons for this development seem to include the following three points: First, recall the conventional wisdom until the beginning of the 1970s: (1) any individual who has a chance to be a free rider will be one and (2) there is no feasible institutional way to avoid misrepresentation of preferences. These views eventually became recognized as assumptions rather than facts and prompted an interest in developing alternative hypotheses. Second, the growing public sector in many countries made it imperative to intensify the search for alternatives to tax financing. Third, and perhaps most important, the fact that decisions about public goods

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often have to be made without reliable information about consumer preferences has posed a considerable problem from the point of view of a well-functioning democracy. There seems to be a need for instruments or institutions that are more appropriate or efficient than those of a representative democracy, where the "representatives" often do not know what to represent on an individual issue.

While it is easy to understand why this field has lately received so much attention, it is more difficult to comprehend the form in which it appears in much of the economic literature. The main issues dealt with seem to be:

- (1) Is there a shrewd, foolproof mechanism that would make—in some sense—rational people reveal their preferences for public goods? The general idea here seems to be that, if the answer is yes, we should simply go ahead and use it for public decision-making. (See, e.g., Clarke (1971), Groves-Ledyard (1977), Tideman-Tullock (1976) and Green-Laffont (1979)).
- (2) To what extent do people actually try to be free riders when there are incentives to do so? The idea here seems to be that, if people do not seem to react strongly to such incentives, we should not worry too much and simply use the WTP responses people give—to hypothetical questions for example—as an approximation to their true WTP (see, e.g., Marwell-Ames (1980), Bishop-Heberlein (1979) and Brookshire et al. (1982)).

It should be stressed that significant progress has been made in both areas and that this may prove to be important in the long run. But from the point of view of more immediate application, the emphasis on these two issues appear misplaced. This for at least two reasons (see also Johansen (1977) and Johansen (1981)):

First, where are the politicians who would let decisions be made by, say, a Groves-Ledyard/Clarke mechanism, a mechanism that even students in economics need considerable time to grasp and that is in several respects subject to criticism, (see, e.g. Ng (1979))?

Second, if free-rider behavior is insignificant in several experimental studies how can we rely on this being consistently so in actual public decision-making? More important, would those who decide if and when the suggested approaches should be used in practice, i.e. the politicians, be convinced that these approaches would continue to work and work better than their own wise deliberations?

Thus, it can be argued that neither issue (1) nor (2) observes the implementation aspects and that, in fact, there is an undersupply of ideas addressed to the more immediate needs of policy-making and of present-day

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government institutions. In particular, research in this area should take into account what is feasible in a political context. As has been pointed out in Bohm (1979), this seems to require meeting at least an "intelligibility" as well as a "verifiability" condition, i.e.

- (1) the proposed decision mechanism must be *simple and easily understood* by ordinary people; otherwise it will not work and is unlikely to be adopted by hesitant or even hostile politicians;
- (2) if a mechanism cannot be *guaranteed* to elicit truthful WTP statements, it must be possible to *check* the actual extent of misrepresentation.

The background of the "verifiability" condition (2) should perhaps be explained a little further. First, it should be noted that the demand-revealing property of most methods is vulnerable to the formation of coalitions—and guarantees that coalitions cannot be formed can rarely be given. Second, each new practical application of a given method may run into problems of political controversy and may therefore be difficult to evaluate without any instrument for ascertaining the extent of truthful reporting. More specifically, those who do not like the outcome may try to disqualify it by making unsubstantiated, yet irrefutable, references to an allegedly extensive misrepresentation of preferences. Given such risks, politicians are not likely to accept the use of a demand-revealing method for decision-making on important issues unless its possible failure to reveal preferences can be observed. In other words, it is not enough to have shown that—in a strict, but limited, sense—*rational* people will truthfully report their WTP.

Few, if any, of the methods proposed in the literature meet the "intelligibility" and "verifiability" conditions (see Bohm (1979) and Johansen (1981)). An obvious reason for this insufficiency is of course that the two requirements are far from easy to fulfill or that they may be even impossible to fulfill without making important sacrifices in other respects. There is, however, one approach which seems capable of meeting the two conditions without sacrificing too much. This is the "interval method" discussed in Bohm (1979) and described in more detail below. Its general characteristics are as follows.

Instead of using one possibly demand-revealing method for eliciting WTP responses from potential consumers of a discrete public good under consideration, two simple, straightforward methods are employed *simultaneously*. A random sample of, say, 50% of the respondents is placed in a position that would give (preferably weak) incentives to *underreport* individual WTP and the remaining respondents are subjected to a situation that would give (preferably weak) incentives to *overreport* individual WTP. Doubling the aggregate responses from each group and allowing for a sam-

pling-error correction, we get a lower and an upper bound on the true aggregate WTP (a lower bound from the first group which is subjected to incentives to underreport, but not to overreport, etc.). Given the criterion that the good is to be produced if true aggregate WTP exceeds production costs, the good will be produced if the interval which contains the true aggregate WTP as a whole exceeds the cost figure. Similarly, the good will not be produced if the interval falls short of the costs. Moreover, if the interval is small *and* the cost figure ends up inside the interval, the natural (or agreed upon) interpretation is that benefits approximately equal cost and that production is a matter of indifference.

If any of these situations occurs, the information base will be no worse than if an exact, true WTP figure could be arrived at. If the interval turns out to be very wide, that is, when an extensive misrepresentation of WTP is *revealed* to have taken place, we have a problem if the cost figure ends up well inside the interval. Now we cannot know if the true WTP exceeds or falls short of costs. However, when this is the outcome in actual practice, the rule could be to return the issue to the politicians, to be determined in the same way as would otherwise have been the case. Thus, no disadvantage (aside from "referendum" costs) would result from using the interval method, while it is possible that a clear-cut answer would be obtained, as suggested above. In addition, the method does not contain any complicated "tricks" for making demand revelation a dominant strategy. Thus, it may possibly meet the intelligibility condition (for details, see Sections 2-3 below). And it does not have to rely on respondents "behaving as they should", as significant misrepresentation would be revealed by this approach, hence meeting the verifiability condition.

The interesting question, of course, is how wide the interval is likely to be in real applications. If the design of the method and the incentives are such that a narrow interval is likely to emerge, the method would be more useful than if the interval is likely to be wide. In a laboratory—but nonhypothetical—experiment in 1969, no significant differences in average stated WTP emerged from randomly selected groups, some of which were subjected to clear incentives for underreporting and others to clear incentives for overreporting (see Bohm (1972)). The question then arises whether these results also hold when a real-world good is involved. Such a nonhypothetical and nonlaboratory test—formalized as an application of the interval method—required cooperation with a government.

In 1980-82, two chances for real-world tests appeared. Both cases concerned public goods in the form of *access* to a future market for a service, where access was nonrival but excludable. One case referred to a new kind of statistics and the other to a new bus line. The two cases will be discussed briefly in turn. (A detailed account of the tests will be published elsewhere.)

2. The Statistics Project

2.1 The Background

In the general atmosphere of the Swedish government's decision down on the "extensive" housing tasks was to find instruments produced by the government for the production of statistics.

The committee, with the right (Social Democrats) proposal from the Central interval method. The Swedish government, which was a part of their housing policy, etc.). The basis for the project was, among other things, a system for data processing which were estimated by the local government could be cost depending on what was involved, with fixed costs and responses, provided the project was covered by user charges.

2.2 Payment Rules and Incentives

The local government decided to try out if their WTP exceeded the fixed costs. The 20% respect to population size was given to other half to group 2. If the good was to be produced, the WTP, no more than a certain percentage figure could be given. Gr... had been given.) Gr... contract which said th...

2. The Statistics Project—The Successful Test

2.1 *The Background*

In the general atmosphere of trying to reduce government expenditures the Swedish government appointed a committee to find ways of cutting down on the "extensive" production of statistics. One of the committee's tasks was to find instruments for evaluating costs and benefits of statistics produced by the government and to investigate new ways of financing the production of statistics otherwise made available at no cost to users.

The committee, which includes members of the Parliament from left to right (Social Democrats to Conservatives), agreed to let the fate of a project proposal from the Central Bureau of Statistics be determined by using the interval method. The project involved detailed statistics of housing in Sweden, which was assumed to be of interest to local governments (for their housing policy, evaluation of master plans, energy-saving measures, etc.). The basis for the statistics was a nationwide census which contained, among other things, a specification of certain characteristics of all dwelling units. If the project was to be carried out, the Bureau would arrange a system for data processing and data presentation, the overhead costs of which were estimated at \$40,000. Once this system had been established, a local government could order data for its own jurisdiction at an additional cost depending on what data it wanted. Thus, a kind of two-part tariff was involved, with fixed costs to be covered by payments linked to the WTP responses, provided the project was accepted, and variable costs to be covered by user charges.

2.2 *Payment Rules and Misrepresentation Incentives*

The local governments were informed that the project would be carried out if their WTP statements for access to the project services exceeded the fixed costs. The 279 local governments in Sweden were stratified with respect to population size. Half were randomly allocated to group 1 and the other half to group 2. Group 1 was to state their WTP in a contract, and if the good was to be produced, they would pay a *percentage* of their stated WTP, no more than needed for the fixed costs to be covered exactly. (This percentage figure could be determined of course only after the responses had been given.) Group 2 was to state their WTP in a slightly different contract which said that if the good was to be produced, they would pay a

small fee of \$100, identical for all who reported a WTP of at least that amount. Those in group 2 who stated a WTP below this figure would not be offered the services at all. The same was true for those in group 1 who reported a zero WTP. This implies that, if the services were to be provided, an exclusion mechanism would be used.

The incentives presented to these two groups were as follows. Respondents in group 1 had a reason to understate, but no reason to overstate, their WTP (the free-rider incentive). Respondents in group 2 with a true WTP above \$100 would have a reason to overstate, but no reason to understate their WTP. Those in group 2 with a stated WTP below \$100 would be excluded from consumption as well as from payments; hence, they were not exposed to any particular incentive to misrepresent their WTP. This means that group 2 as a whole was left with an overstatement incentive.

It was considered important that the payment for respondents in group 2 be small, so that a sufficiently large number of respondents would have a WTP in excess of the payment and hence an incentive to overreport their WTP. In this way, we would also limit the efficiency loss from excluding consumers with a non-zero WTP in this group. On the other hand, an extremely low payment level, e.g. zero, might jeopardize the quality of the responses because of the reduced checks on carelessness (in group 2) and because of feelings of injustice (in group 1).

One hundred dollars was considered low enough to fall short of the expected WTP of most local governments. Although it is a negligible part of their budget, the amount requires a reason for a government to spend it. Moreover, local governments in Sweden have been under heavy financial pressure for some time now, and this is likely to have created a high degree of cost consciousness.

Finally, two important details should be pointed out. The respondents (formally, the boards of the local governments) were informed about the reason for the different payment conditions ("to check possible attempts to respond by tactical WTP instead of the true WTP", thus indicating explicitly the different incentives that existed for the two groups). In addition, the respondents were told that the responses would be non-anonymous, i.e., that all responses would be publicized, the purpose being to make it harder for the respondents to misrepresent significantly their WTP.

2.3 The Results

As shown in Table 1, 274 out of 279 local governments responded (98%), the same absolute number in each group. The average stated WTP was SEK 827 in group 1 and SEK 889 in group 2. Multiplying by the total

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Group 1	140
Group 2	139
Total	279

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Table 1

	Number of govts		Total WTP (sum of responses)	Average WTP	Average WTP × 274	WTP interval	
	Total	Responded				in SEK	in percent of lower bound
Group 1	140	137	113,350	827	226,700	16,962	7.5%
Group 2	139	137	121,831	889	243,662		
Total	279	274 (98%)	(235,181)				

number of responding governments, we get an estimate of the lower bound for the aggregate WTP as SEK 226,700, and an estimate of the upper bound as SEK 243,662. In order to take into account that the composition of the two groups may differ, we have to make an adjustment for the sampling error. With a 95 percent one-sided confidence interval, we get the lower bound as SEK 226,700 - 35,761 and the upper bound as SEK 243,662 + 36,956. The WTP interval that is directly observable is on the order of SEK 17,000 or 7.5 percent of the estimated lower bound. Moreover, the lower bound exceeds the fixed costs of SEK 200,000 (\$40,000), which means that the project will be carried out and that the respondents will have to pay according to the specified rules. (This has now been accomplished).

The distribution of the responses are presented in Table 2. We note that 30% of all local governments stated a WTP equal to zero and 9% a nonzero amount below SEK 500, approximately the value of a couple of

Table 2

Distribution of WTP responses			
SEK	Both groups abs. no. (%)	Group 1 abs. no. (%)	Group 2 abs. no. (%)
0	81 (30)	49 (36)	32 (23)
1-499	26 (9)	14 (10)	12 (9)
500	74 (27)	25 (18)	49 (36)
501-999	93 (34)	5 (4)	7 (5)
1,000		34 (12)	19 (14)
1,001-5,000	93 (34)	24 (18)	20 (15)
> 5,000		3 (1)	2 (1)
	274 (100)	137 (100)	137 (100)

publications. 27% responded with a WTP equal to the only figure mentioned, SEK 500 (\$100), the payment relevant for group 2. 34% revealed a more noticeable interest in the project by stating a WTP > SEK 500, the maximum figure given being SEK 10,000.

Looking at the responses from each group, group 2 had a considerably larger number of SEK 500 responses than group 1 (36% as compared to 18% for group 1). Could this be interpreted as a reaction to the overstatement incentive provided to this group, from those with a true WTP below SEK 500? The answer is, of course, no. As governments in group 2 who gave a response of SEK 500 would have to pay exactly this amount, one can certainly assume that they have a *willingness* to pay this amount. Thus, if overstatements occurred in group 2, it would have to show up in the frequency of statements exceeding SEK 500. Yet, as we can see from Table 2, the number of responses with a WTP above SEK 500 was not larger in group 2 and did not increase in any significant fashion for higher WTP levels.

Instead, we see that the number of responses on each level was very similar for the two groups, except for the SEK 500 and 0 levels. Group 1 had a significantly higher percentage of zero responses than group 2 (36% as compared to 23%). As respondents in group 1 were confronted with an incentive to underreport their WTP, the question is whether the relatively large fraction of zero responses in this group could be a reflection of this fact. Here, however, we must note that all respondents stating a WTP = 0 were excluded from consuming the good in the future (which they knew in advance). Thus, a zero WTP could not be interpreted as a free-rider response.

2.4 Main Conclusions

1. The results—in particular, the small interval for aggregate WTP—do not reveal any extensive formation of coalitions of the type where a group 1 respondent asks someone in group 2 to state a very high figure in order to increase the chances of having the good produced, while he himself may state a low WTP and take a free ride. The non-anonymity condition may have been at work here. Another possible explanation, of course, is that the two groups were explicitly designed to act as “control groups” for one another, so that attempts by many to misrepresent preferences in this or other ways would be revealed by the method used. It should be noted that coalition behavior does not invalidate the interval method as such (as would be the case with many other methods); it just makes the interval wider and the method less useful for practical decision-making.

Demand Revealing Method

2. A clear-cut aggregate WTP exists.

3. The interval means that the local government knows where it would have to pay for aggregate WTP.

3. The Bus Line

The test was conducted in the spring of 1982. The local government started if people in the hospital and a large number of people to the bus line.

I shall not present a cumbersome case. I shall try to explain the problems of real-estate that employees at the transportation facility saw in sight and it was in the service of the region. Contacts with the local government were favorably inclined. The financial arrangements, time schedule and the participation from the potentially interested individuals in the whole procedure were a six-month trial period to establish an estimate of the number of commuters was in the sequences (for the sake of the event that the local government would pay their costs) allowed them to pay a fixed, symbolic amount for that figure. In addition, the costs to be covered were expected volume.

2. A clear-cut answer was given to the question as to whether the aggregate WTP exceeded the relevant costs or not.

3. The interval for the aggregate or average WTP was small, which means that the loss of accuracy was insignificant compared to a situation where it would have been possible to obtain *one* nondistorted estimate of aggregate WTP.

3. The Bus Line Project—The Test that Failed

The test discussed in the preceding section was carried out in the spring of 1982. Prior to that test, another one had been completed in 1980. The local government in Stockholm had agreed to let a new bus line be started if people in a given area, essentially people who worked in a large hospital and a large company, revealed a sufficiently high WTP for access to the bus line.

I shall not present the detailed results of this rather elaborate and cumbersome case because it eventually turned out to be a failure. Instead I shall try to explain why it failed, as this provides some insight into the problems of real-world experiments in this field. It had long been known that employees at the work places involved were dissatisfied with the public transportation facilities. In the summer of 1980 there was still no solution in sight and it was made explicit by the authorities that no additional bus service of the regular type would be provided within the next 12 months. Contacts with the administration of the work places revealed that they were favorably inclined towards using the interval method with the accompanying financial arrangements in an attempt to provide a new bus line. The time schedule and the bus route were determined on the basis of information from the personnel departments. Employees (and other people potentially interested in the bus line) were given extensive information about the whole procedure and were told that the bus line would be opened for a six-month trial period if the aggregate WTP exceeded costs. In order to establish an estimate of the aggregate WTP, the population of potential commuters was divided into two groups with different payment consequences (for the stated reason of possible misrepresentation of the WTP). In the event that the WTP interval exceeded costs, respondents in group 1 would pay their stated WTP per month (entitling them to a card which allowed them to ride on the bus) and each respondent in group 2 would pay a fixed, symbolic fee of \$2 per month, provided the stated WTP exceeded that figure. In addition, a 20 cent fare was to be paid for each ride. Thus, the costs to be covered by the aggregate WTP equalled total costs minus the expected volume of fares.

Information meetings were arranged in such a way that all those likely to be interested in the bus line had the opportunity to attend. Their WTP statements could be given to us either after such a meeting or by mail. However, very few people responded, and the only people to turn up at the meetings were representatives of the local trade unions. They reported that they had held meetings of their own and had decided

- (1) that they did not accept the local government's decision not to provide them with regular bus service on regular terms;
- (2) that they did not accept the idea of having to pay in a way that differs from the way "everybody else" pays (bus service is subsidized in the area)—the implication being that they would rather go without this bus service, even if their members felt it would be worth the costs;
- (3) that they would not like to help in realizing an arrangement that might reduce the level of public services provided free or at low costs. It was argued that such an arrangement, if accepted here, could spread to other parts of the public sector; and
- (4) on these grounds, they advised their union members to abstain from participating in the project.

There are, of course, many possible reasons why so few people participated—actual demand may have been low, instructions may have seemed cryptic, the decision rule too uncommon, etc. But the position taken by the trade unions would, at least in Sweden, be reason enough for people to abstain from participating. Only 70 of an expected 400 or so potentially interested people responded with a non-zero bid. The results (which have, of course, no real interest given this conflict) can be stated briefly as follows. We got non-zero bids from about 35 persons in each group; the average WTP from group 1 (where people would have had to pay their stated WTP) was about \$7 per month and the average WTP from group 2 (where people would have had to pay \$2 per month) was about \$8 per month. In order for the WTP from these 70 people to have been able to cover the costs, the minimum stated average WTP would have had to exceed \$35–40 per month.

This test seems to have shown one important thing about applications of new mechanisms for decision-making with respect to public goods. If consumers of the public good in question are accustomed to a specific kind of financing, the responses to the questions posed and to the whole procedure may be essentially a political reaction to having the payment system and payment distribution altered. This may be particularly true when the respondents believe that they are now supposed to pay for something they would otherwise, or usually, get for "free" (i.e. which would be paid for by

Demand Revealing

general taxes). Even if consumers may very well be able to provide information of the WTP, reducing the low level of incentives to overstate WTP is no longer a relevant problem. It should be made clear that consumers are not supposed to be lying. Such applications are for goods new to the

4. Summary

In spite of the fact that the literature, little has been written on making with respect to public goods. However, there are many applications of functional mechanisms are likely to make use of two nonlaboratory

One application of the method of Stockholm have failed for the reason of demand distribution where consumer

The other applications were completed by consumers. It provides the public good and the aggregate WTP in the only real world was little loss of

References

- Bishop, R. and Helmer
Journal of Agricultural Economics
 Bohm, P. (1972), "Economic
 Review 3, March

general taxes). Even if the reactions stop short of a boycott, the responses may very well be biased, hence introducing a systematic error in the estimation of the WTP. Specifically, it may increase free-rider behavior, hence reducing the lower bound of the WTP interval. It may even distort the incentives to overreporting, so that the upper bound of the WTP is no longer a relevant upper bound. The implication seems to be that attempts should be made to find applications to public goods where potential consumers are not strongly prejudiced in favor of a specific kind of (tax) financing. Such applications could be *new* types of public goods or local public goods new to the area, etc.

4. Summary

In spite of the extensive discussion of demand revelation in the literature, little has been offered by way of practicable instruments for decision-making with respect to real-world public goods in a real-world democracy. However, there seems to exist one approach capable of meeting the requirements of functional simplicity and misrepresentation checks that politicians are likely to make. This approach—the interval method—has been tested in two nonlaboratory, nonhypothetical cases briefly reported on here.

One application (a new bus line, a case provided by the local government of Stockholm) met strong opposition from local trade unions and may have failed for this reason. The outcome here indicates that trial applications of demand-revealing methods—which necessarily involve a new payment distribution—should probably avoid existing (types of) public goods where consumers have grown accustomed to a specific form of financing.

The other application (a case provided by the Swedish government) were completed satisfactorily with 98 percent participation from potential consumers. It proved successful in reaching a decision on the production of the public good (a statistics project) and gave an estimate of the interval of the aggregate WTP on the order of 7.5 percent of the lower bound. Thus, in the only real case where the interval method has been fully tested, there was little loss of accuracy in estimating the aggregate WTP.

References

- Bishop, R. and Heberlein, T. (1979), "Measuring Values of Extramarket Goods", *American Journal of Agricultural Economics*, December.
- Bohm, P. (1972), "Estimating Demand for Public Goods: An Experiment", *European Economic Review* 3, March.

- Bohm, P. (1979), "Estimating Willingness to Pay: Why and How?" *Scandinavian Journal of Economics*, 81, pp. 1-12.
- Brookshire, D.S. et al (1982), "Valuing Public Goods: A Comparison of Survey and Hedonic Approaches", *American Economic Review*, March.
- Clarke, E. (1971), "Multipart Pricing of Public Goods", *Public Choice*, 8.
- Green, J. and Laffont, J. (1979), *Incentives in Public Decision-Making*, Amsterdam: North-Holland.
- Groves, T. and Ledyard, J. (1977), "Optimal Allocation of Public Goods", *Econometrica*, May.
- Johansen, L. (1977), "The Theory of Public Goods: Misplaced Emphasis?" *Journal of Public Economics*, 7.
- Johansen, L. (1981), "Review and Comments: J. Green and J.J. Laffont, Incentives in Public Decision-Making", *Journal of Public Economics*, August.
- Marwell, G. and Ames, R.E. (1980), "Economists Free Ride, Does Anyone Else?", Disc. Paper, Univ. of Wisconsin.
- Ng, Y.K. (1979), *Welfare Economics*, London: Macmillan.
- Tideman, N. and Tullock, G. (1976), "A New and Superior Process for Making Social Choices", *Journal of Political Economy*, December.

Résumé

En dépit d'une large discussion dans les revues économiques de la demande révélée, peu d'instruments opérationnels sont disponibles pour la prise de décision sur des biens publics réels dans une vraie démocratie.

Cependant, on peut penser qu'il existe une démarche capable de répondre aux exigences de la simplicité fonctionnelle et aux erreurs de représentation que les politiciens sont susceptibles de faire. Cette démarche introduirait un intervalle pour la véritable disponibilité à payer, là où les limites supérieures et inférieures sont calculées de façon directe à partir de deux échantillons différents de la population (que des incitations opposées conduisent à une mauvaise représentation) et là où la dimension de l'intervalle donne la mesure de l'étendue totale de la mauvaise représentation. Cette dernière propriété est capitale, étant donné qu'aucune méthode, jusqu'à présent du moins, ne peut garantir qu'elle rend compte fidèlement de la disponibilité à payer (D.A.P).

Cet article présente deux applications à cette démarche qui ne sont ni hypothétiques ni de laboratoire, pour expliquer la demande de biens publics. L'une des applications qui concernait une nouvelle ligne d'autobus (cas fourni par le gouvernement local de Stockholm) a rencontré une forte opposition de la part des syndicats locaux et a pu échouer pour cette raison. Le résultat semble ici indiquer que des applications expérimentales des méthodes d'explication de la demande révélée—qui impliquent nécessairement une nouvelle répartition du paiement—devraient éviter les formes existantes de biens publics où les consommateurs se sont habitués à une forme spécifique de financement.

La seconde application concernait la production d'un nouveau modèle

de statistiques effectués de facteurs potentiels de biens (DAP) de l'ordre implicite dans l'estimation, sans pu obtenir un

de statistiques (cas fourni par le gouvernement suédois). Ce test a pu être effectué de façon satisfaisante avec une participation à 98% des consommateurs potentiels. Il s'est avéré positif, dégageant une décision sur la production de biens publics et a donné une estimation de l'intervalle de l'agrégat (DAP) de l'ordre de 7,5% de la limite inférieure. Cette perte de rigueur implicite dans la méthode de l'intervalle était insignifiante par rapport à une estimation, sans distortion, de la disponibilité générale à payer, si l'on avait pu obtenir une telle estimation.

Scandinavian Journal of
of Survey and Hedonic
Amsterdam: North-
ds", *Econometrica*, May.
asis?" *Journal of Public*
nt, Incentives in Public
ne Else?", Disc. Paper,
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