# Public libraries and valuation: <br> A Norwegian study applying a non-market approach 

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## Introduction*

This study of the value of Norwegian public libraries applies an economic method for nonmarket valuation. The background for an economic approach is the very restrained economic situation in the public sector generally and especially in the local public sector, i.e. the municipalities. In Norway, all municipalities are by law obliged to provide and fund the local public library service. Internationally, a continuous economic pressure on public budgets is familiar and has resulted in a growing urge to document the value of public goods, including the value of libraries. Clear and accurate statements of benefits from use of public money on libraries are needed. Therefore, in addition to qualitative studies of the public library benefits, there
is a need for quantitative methods to make estimates of public library value.

The context of my study is two major challenges for the libraries today. The first is the effects on libraries and library use of the digitizing of the society, and the second is the continuing economic pressure on public budgets in general and library budgets specifically. These challenges for the libraries are studied from different angles within the library and information science, varying in both theoretical perspective and methodology. One subgroup of this research explores the overall or social impact of the public library ${ }^{1}$. Linley and Usherwood (1998) found that the social impact includes the library's social role, the library heightens confidence in individuals and communities and strengthens

[^0]community ownership, equity in service delivery is important, the library plays an educational role, promotes reading and literacy and exerts an economic impact.

This study of the value of the Norwegian public libraries supplements such studies of the overall value of the library, but it goes one step further and aims to measure the overall impact. As the economic situation in the public sector in Europe continues to be restrained, the controversy of how to prioritize public funds hardens. In this situation, it seems necessary to determine the value of public libraries also in monetary terms.

## Valuation of the public library service as a non-market good

To find ways to estimate the value of public libraries, methods developed in economics were relevant. The starting point is the economic concept of value, " $<\ldots>$ which is not synonymous with financial or commercial value, although it is ultimately expressible in terms of either a numeraire good or (preferably) money - comprises any direct use value of the cultural good or service in question, plus whatever non-market values it may give rise to", as David Throsby (2003, p. 279), nestor of the cultural economics research area, has stated. It is the economic value of public libraries in this sense that the Norwegian study seeks to explore.

This economic concept of value has its foundation in the theory of modern welfare economics. It is related to choice. Based on, and constrained by, his or her economic situation, each individual can choose to consume private, public and other non-market goods, including library services. The trade-offs that people make as they choose less of one good and substitute more of another good reveal something about
the values people place upon these goods. These values can be expressed in terms of willing to pay (WTP) or willingness to accept compensation (WTA). The overall or social value of public libraries that this study sought to elicit is based upon these measures.

Two basic research questions were formulated:

- Can economic models for valuating nonmarket goods be fruitfully applied to public libraries?
- Can such approaches contribute to the theoretical and methodological arsenal of library and information science?

A critical question is whether the economic models based on the assumption of rational agents whose economic behaviour is maximizing their utility, conflict fundamentally with the very nature of public libraries whose justification is rooted also in values other than those based on narrow self-interest. Two main problem areas need to be clarified: (1) whether it is possible to define rational behaviour as a wider concept, including behaviour not motivated by the pursuit of narrow self-interest and (2) whether this wider definition fits with the assumption of 'behavioural' economic models.

Implicitly, it is necessary to clarify the concept of utility and the concept of man which underlies the assumptions of individuals as economic agents seeking to maximize their utility.

Based on the Indian economist and Nobel Prize Laureate Amartya Sen's ${ }^{2}$ (1979) seminal critique of the concept of man as motivated by self-interest only, possible motivations for economic behaviour in a public library valuation

[^1]setting is discussed. We argue that an individual's economic behaviour can be based on a compromise between self-interest, claims of morality, social norms, altruism, and the pursuit of various other objectives.

The conclusion from a theoretical discussion (Aabø and Audunson, 2002) is that economic methods for valuing non-market goods in general and the contingent valuation (CV) method in particular seem to be able to capture the value people attach to public libraries - and ought to be tested out empirically. The Norwegian project of public library valuation is such an empirical study. In this article, the part of the study answering the question of whether or not the population finds the public libraries worth their price are reported.

## The contingent valuation method

Methods for non-market valuation were first developed in environmental economics and have since spread to several other sectors, such as transportation, health, education, sports, and culture. Such approaches make it possible to achieve estimates of how the citizens value nonmarket goods. By these methods the non-market benefits of public libraries can be monetized, so that the benefits can be balanced against the costs of providing them. There are now more than forty years of experience in using such methods.

The contingent valuation (CV) method is by far the most often used non-market approach. The CV method uses surveys to value public goods and circumvents the absence of markets by presenting the respondents with a hypothetical market in which they have an opportunity to 'buy' or 'bid for' the good in question. The main difficulties in the implementation of such nonmarket methods are that they rely on the ex-
pressed intent and a hypothetical but not real behaviour. The main objective is therefore to bring respondents' intentions as closely as possible in line with their probable actions. Therefore, careful considerations are necessary in designing the scenario in a CV study, which consists of three main components (Mitchell and Carson, 1989):

1) the choice setting in which the respondents are to imagine themselves, with questions eliciting their willingess to pay (WTP) or willingness to accept (WTA) compensation for the good(s) to be valued;
2) information of the paying vehicle and the decision rules for whether or not the proposed change will be carried out;
3) questions about the respondents:

- socio-economic characteristics
- library behaviour
- attitudes towards libraries.

The credibility and usefulness of the contingent valuation method was evaluated by a panel ${ }^{3}$ of economic experts, led by the Nobel Prize winners Kenneth Arrow and Robert Solow, to examine the merits of the method initiated by the vast damages of oil spills in the Exxon Valdez catastrophe in Alaska in 1989. The panel concluded that contingent valuation " $<\ldots$. $>$ can produce estimates reliable enough to be the starting point of a judicial process of damage assessment, including lost passive-use values" (Arrow et al., 1993, p. 4610) and it also, importantly, provided a set of guidelines necessary to be followed to perform successful CV studies.

[^2]The CV method has been applied in more than two thousand studies internationally (for an early bibliograhy, see Carson et al., 1994). For cultural goods, more than 70 cultural economics projects applying CV have been reported to date (Noonan, 2002), investigating a variety of cultural goods such as museums, theatres, national television programs, historical monuments and cultural heritage. There also exist a few contingent valuation studies of libraries. In 2000, when this Norwegian project started, only two studies were reported in the literature, one from a public library (Holt et al., 1999) and the other from an academic library (Harless and Allen, 1999).

## The Norwegian study

The Norwegin study is national and based on a national population sample which was drawn by a stratified three-step design: (1) municipalities were randomly drawn from clusters based on industrial and demographic structure and geography, (2) starting addresses for households within the municipalities were randomly drawn, and (3) the individual in the household should be the person above 15 years with the most recent birthday.

The sample was then made largely representative with respect to age, sex, occupation, economy, geography and degree of urbanity. The sample consisted of 1000 respondents and included both library users and non-users. They were all interviewed in their homes by a professional opinion company who used a survey instrument that the research team had constructed and tested out in two pilot studies. The first part of the questionnaire used a top-down design starting with a description of overall municipality level services, moving down to cultural goods, and then to public libraries. The inten-
tion was to put libraries in a context of more general local public goods and indirectly remind the respondents of their budget constraint whereby other goods and services compete for scarce private and public resources.

Previous research has shown that valuation estimates tend to be influenced by the choice of the elicitation method. Therefore, in the Norwegian study the respondents' valuation of their local public library was elicited by applying two separate elicitation approaches to rectify elicitation method effects. These elicitation formats were specifically designed to correct for overestimating the value of the good in question. The two formats were used on a split sample eliciting willingness to pay (WTP) as well as willingness to accept (WTA), since the population's property rights to the public library were shown to be an issue of relevance. The respondents were randomly distributed to one of four subsamples of about 250 respondents in each, testing elicitation effects between the two WTP and WTA subsamples, respectively, and comparing WTP and WTA within the same elicitation format. All respondents were faced with two valuation questions. The first was asked in one of the two elicitation formats, while the second was openended. This design makes it possible to test the estimates to the first and second valuation questions both within each subsample and on the whole sample.

Contingent valuation implies that respondents are asked to state their values of a change in the provision of a non-market good, here public libraries, in the form of maximum willingness to pay (WTP) for an improvement or minimum compensation (WTA) in order to accept a change to the worse. In theory, WTP and WTA should differ only by small amounts, but studies from the last decades show that WTA estimates are often considerably higher than WTP esti-
mates for the same good ${ }^{4}$. Due to this observation, when the natural setting calls for valuing WTA, one instead often chooses to estimate WTP, which is the conservative choice (Arrow et al., 1993). A special case is when the good to be valued has an inner value or a value separated from the use value and when people feel they have property rights to the good in question. In such cases, WTP can give biased estimates, while WTA better expresses what economists term the "true" preferences ${ }^{5}$.

Since the issue of property rights to public goods is shown to have economic implications, the respondents in the Norwegian study were asked: "Do you think you have a right to have access to a public library in the municipality where you live?" The answers were almost unanimous, $94 \%$ saying "Yes", a much higher fraction than those who stated to be library us-

[^3]ers, which in this study was $60 \%$. Only $2 \%$ answered "No" and 4\% "Don't know". This unambiguous result and the importance of the property rights question in non-market valuation have implications for the value estimate of the Norwegian public libraries.

The starting point for the valuation questions was a scenario describing an economic situation which forced the local politicians to suggest a choice between closing down the local public library or increase the local taxes. The first valuation question in the different variants of the four subsamples was constructed as shown below.

In subsample 1, the respondents were asked if they would support or oppose the proposition of maintaining the public library service in their municipality, if it implied an annual increase in the local taxes for their household (WTP). In subsample 2, the proposition was for closing down the local public library and the respondents were asked if they would support or oppose this proposition, if it implied that the saved budget funds were transferred to other municipality tasks benefiting their household (WTA). The respondents in both of the subsamples were asked to answer by considering a payment card with money amounts ranging from a small $100 \mathrm{NOK}^{6}$ to the considerable amount of 10000 NOK (see Table 1). They should ask themselves whether they would be definitely for, probably for, not sure, probably against or definitely against the proposition for each of the money amounts.

In subsample 3, the valuation question included multiple response statements and the respondents were asked to choose one of them (see Table 2). This table shows that $36 \%$ of the respondents in subsample 3 were willing to pay the asked money amount in yearly local tax in-

[^4]Table 1. Payment card with a scale of safety levels. Tick off at one certainty level for each money amount, i.e. once per line

| NOK / Household / <br> Per year | Definitely <br> FOR | Probably <br> FOR | Not sure | Probably <br> AGAINST | Definitely <br> AGAINST |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 100 |  |  |  |  |  |
| 300 |  |  |  |  |  |
| 500 |  |  |  |  |  |
| 700 |  |  |  |  |  |
| 1000 |  |  |  |  |  |
| 2000 |  |  |  |  |  |
| 5000 |  |  |  |  |  |
| 10000 |  |  |  |  |  |

Table 2. The first valuation question in subsample 3, with distribution of answers to the six response options
Do you support maintaining the local public library services and are willing to pay ... NOK in additional annual local taxes to prevent closing down the library?

Which one of these statements best expresses your answer?

|  | Frequencies | Per cent |
| :--- | :---: | :---: |
| 01. I support maintaining the local public library services and am willing to <br> pay ... NOK in local tax increase | 89 | 36 |
| 02. I support maintaining the local public library services and am willing to <br> pay an additional local tax, but it is worth less than ... NOK to me | 25 | 10 |
| 03. I support maintaining the local public library services but disagree that it <br> demands additional local taxes | 98 | 39 |
| 04. I don't support maintaining the local public library services even if it <br> doesn't cost me anything | 7 | 3 |
| 05. Don't know | 75 | 6 |
| 06. Will not answer | 7 | 3 |
| Missing | 250 | 4 |
| Total |  | 101 |

* The bids varied randomly between 100 NOK, 300 NOK, 500 NOK and 1000 NOK.
crease to maintain their local library. $10 \%$ were willing pay an additional local tax but thought the library was worth less than the asked money amount. Only 3\% did not support maintaining the local public library even if it did not cost them anything. However, the highest fraction, $39 \%$, answered response option 03 , supporting to maintain the local library but not agreeing that it demands additional local taxes.

Response option 03 in Table 2 was designed to catch possible protest voters. Respondents choosing this option could also be motivated by considerations of inefficiency in public library expenditure, i.e. support spending on public libraries but believe that the current output could be maintained with lower tax expenditures if the libraries were run more efficiently. All respondents answering option 03 were posed follow-

Box 1. Follow-up valuation question in subsample 3 posed to possible protest bidders, i.e. respondents who answered option 03 in Table 2

Do you fully agree, partly agree, partly disagree or fully disagree with the statements below, or you don't know:

1) I would be willing to pay ... NOK ${ }^{*}$ to maintain the local library service, if I was convinced that the municipality is unable to pay the costs within their budget.
2) I would be willing to pay ... NOK to maintain the local library service if I was convinced that the municipality is unable to pay the costs without having to reduce services in the health and educational sectors.
3) I cannot afford to pay anything to maintain the local library service.

* The bids varied randomly between 100 NOK, 300 NOK, 500 NOK and 1000 NOK.
up questions with the purpose of prompting them to state their true preferences (see Box 1).

In subsample 4, the respondents were asked to imagine that the municipality council considers two alternatives: (1)To close down the local library and use the saved budget funds to increase the efforts on other municipality tasks that will benefit your household, or (2) To maintain the local library and also other municipality tasks on today's level of activity. The respondents where then asked to choose one of three statements (see Table 3).

The formulation of the valuation question in subsample 4 implies that the respondents were asked to consider whether or not it would enhance their welfare to close down the library to use the saved budget funds to increase the municipal efforts on other public services that benefited their households. Table 3 shows the response distribution. Response option B in Table 3 was chosen by half of the subsample. Although it can contain protest voters, it will normally consist of respondents with a positive valuation of the local library, some of whom

Table 3. The first valuation question, in subsample 4, with the distribution of answers to three response options $A-C$

| Imagine that the municipality council considers two alternatives: <br> 1. To close down the local library and use the saved budget funds to increase the efforts on other <br> municipality tasks that will benefit your household. |
| :--- | :---: | :---: |
| 2. To maintain the local library and also other municipality tasks on today's level of activity. |
| Which one of the statements A-C best expresses your answer? | | Percentage |
| :--- |
|  |
| A. I support maintaining the local public library if the alternative is to <br> close down the library and transfer ... NOK in saved budget funds to <br> other municipality tasks that will benefit my household |
| B. I support maintaining the local library if the alternative is to close <br> down the library, independent of the amount of saved budget funds that <br> then can be transferred to other municipality tasks that will benefit my <br> and other households |
| C. I support closing down the local library if it involves that ... NOK is <br> transferred to other municipality tasks that will benefit my household |
| Missing |

may have a very high valuation of it. It seems reasonable to assume that the B responses imply at least as high average valuation as the A responses. Ninety per cent (adding together statement $1=39 \%$ and statement $2=51 \%$ ) supported maintaining the local library in this situation, indicating that the alternative use of the library funding was less worth to them. Only a small minority, $3 \%$, responded positively to the proposal of closing down the library if the saved, specified money amount instead was used on other municipality tasks, i.e. statement C.

The central principle of the benefit-cost analysis is that " $<\ldots>$ the effects of a policy change on society are no more or no less that the aggregate of the effects on the individuals who comprise society" (Portney, 1993, p. 3). This indicates that society should make changes in library allocations only if the results are worth more in terms of individuals' welfare than what is given up by diverting resources and inputs from other uses. Considering the results of this study, suggestions of reducing library funding to use the saved money on alternative uses do not seem to be supported by the Norwegian population.

Above, the four variations of the first valuation question are presented. The second valuation question and the estimation procedures, calculations and assumptions are presented in detail in Aabø (2005).

The objective of the study was to measure the total benefits to the citizens of the public libraries at today's service levels and thus determine whether public libraries in Norway are 'worth their price' as seen from the population's perspective. The study explored the social value of public libraries by eliciting this value among a random sample of the citizens. The social value lies within the range of $400-2000$ NOK. The lower bound is close to the average library costs
per household at the time of the survey and the upper bound is five times higher. Due to the choice situation in this study, the population's "true" value is reasonably closer to the upper bound. For public goods to which the citizens perceive they have strong property rights, the WTA estimates are extra important (MacDonald and Bowker, 1994).

The overall conclusion from the empirical study is that, on the average, Norwegian households value the benefits from public libraries clearly higher than the costs of providing the library services, demonstrating a cost-benefit ratio of approximately $1: 4$. In other words, for each NOK of taxes that is used on public libraries, the population gets four times back in benefits from them. This does not mean that all the public libraries of the 433 municipalities in Norway have a positive net value. The estimate is an average, implying that some municipal libraries have a higher value and others a lower, making room for improvements. To explore the benefit-cost relation at the municipal level further research is necessary. At the national level, however, this study has established that the Norwegian public libraries definitely have a net value.

During the last few years, several CV studies of libraries have been performed (see Table 4). Note that there are important differences among the studies in this table: some use several methods, others only CV; some include both users and non-users, others only users; some investigate the whole library service, others only a specific service, etc., implying that they cannot be directly compared. In addition, they are still too few to draw general conclusions. However, the number of CV studies of libraries is growing and a meta study of such studies is published (Missingham 2005). The Norwegian study appears to be the first CV study of public libraries at a national level. It adds to the body of library

Table 4. Library studies applying the contingent valuation method

|  | Cost-Benefit Ratio |
| :--- | :---: |
| St. Louis Public Library, US, 1999 | $1: 4$ |
| University Library, Virginia, 1999: Reference desk service | $1: 3.5$ |
| National Library, New Zealand, 2002: Bibliograhic databases and the Union <br> catalogue | $1: 3.5$ |
| British Library, 2004 | $1: 4.4$ |
| Florida Public Libraries, 2004 | $1: 6.5$ |
| Public Libraries in South Carolina, 2005 | $1: 4.5$ |
| The Norwegian Public Libraries, 2005 | $1: 4.5$ |

studies applying this method, and its bottom line result lies within the range of the results from the other studies. Used with care and ac-
curacy, economic methods for valuing nonmarket goods seem to be fruitfully applicable to libraries.

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## VIEŠOSIOS BIBLIOTEKOS IR VERTĖ: NORVEGIJOS VIEŠŲJŲ PASLAUGŲ VERTINIMO TYRIMAS

## Svanhild Aabe

Santrauka

Šiandien daugelis viešujų bibliotekų susiduria su spaudimu pateisinti joms skiriamas biudžeto léšas, ịrodant jų vertę bei socialinị, šviečiamajị, taip pat ekonominị poveikį individams ir bendruomenėms. Šiame straipsnyje pristatomas Norvegijos viešųjų bibliotekų vertès tyrimas, kurị atliekant viešosioms paslaugoms tirti buvo taikyti ekonominiai modeliai. Viešujų bibliotekų paslaugos šiame tyrime traktuojamos kaip viena iš viešưjų gėrybių, turinčių tam tikrą socialinę vertę. Kadangi léšos viešosioms gėrybėms finansuoti nėra skirstomos lygiai, vartotojai gali išreikšti savo prioritetus, teikiamus vienai ar kitai viešajai paslaugai.

Tyrime kelti šie pagrindiniai klausimai: Ar viešąsias gėrybes vertinantys ekonominiai modeliai gali būti naudingai pritaikyti viešosioms bibliotekoms? Ar šis požiūris ị viešąsias bibliotekas prisideda prie bibliotekininkystės ir informacijos mokslų teorijos ir metodologijos?

Teorinès analizės pagrindu autorė daro išvada, kad ekonominiai modeliai, o ypač sąlyginio vertinimo modelis, gali būti taikomi siekiant išsiaiškinti vertę, kurią žmonès sieja su viešosiomis bibliotekomis. Siekiant pagrịsti šią išvadą empiriniais duomenimis, atliktas tyrimas, kuriame dalyvavo daugiau nei 1000 bibliotekų lankytojų, taip pat respondentų, nesinaudojančių viešưjų bibliotekų paslaugomis. Tyrimo atspirties situacija buvo pasirinkimas uždaryti viešąją biblioteką, jos finansavimą skiriant kitoms viešosioms
paslaugoms arba padidinant metinius mokesčius gyventojams.

Tyrimo duomenimis, 94 proc. respondentų mano turintys turėti galimybę naudotis viešąja biblioteka savo savivaldybėje. 36 proc. respondentų sutiktų su mokesčių padidinimu, jei ši suma būtų skirta vietos viešajai bibliotekai išlaikyti. 10 proc. respondentų teigė, kad sutiktų mokėti papildomus mokesčius, skirtus bibliotekai, tačiau nurodyta suma yra per didelè. Nemaža respondentų dalis (39 proc.) teigé, kad viešoji biblioteka turi būti išlaikoma, tačiau nesutiko su tuo, kad bibliotekos išlaikymo pagrindu galėtų būti didinami mokesčiai. Tik 3 proc. respondentų pareiškė, kad viešoji biblioteka neturėtų būti finansuojama, net jeigu jiems tai nieko nekainuotur. Taip pat 90 proc. respondentų teigé, kad šiuo metu bibliotekoms skiriamos mokesčių dalies nukreipimas kitoms viešosioms paslaugoms jiem būtų mažiau vertingas nei bibliotekų paslaugų vertė. 3 proc. respondentų sutiktų, kad viešoji biblioteka būtų uždaryta, o finansavimas skirtas kitoms savivaldybės remiamoms viešosioms paslaugoms.

Remdamasi tyrimo rezultatais autore daro esminę išvadą, kad Norvegijos viešưjų bibliotekų nauda yra daug didesné, nei kainuoja jų paslaugų išlaikymas, ir šį kainos ir naudos santykį vertina kaip 1:4. Kitaip tariant, gyventojai teigia iš kiekvienos mokesčiams sumokėtos kronos, skirtos viešajai bibliotekai, gauną keturis kartus didesnę naudą.

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[^0]:    * Publication is based on the material of the paper presented at the international seminar "Evaluation of Library and Information Services. Does it lead to innovation and effectiveness?", organized by Institute of LIS, Faculty of Communication, Vilnius University (Vilnius, November 16-17 2006).
    ${ }^{1}$ For literary reviews, see Debono, B. (2002), Assessing the social impact of public libraries: What the literature is saying, Aplis, 15 (2), 80-95 and Kerslake, E. and Kinnel, M. (1997), The social impact of public libraries: A literary review, Boston Spa: British Library Innovation Centre.

[^1]:    ${ }^{2}$ Amartya Sen was awarded the Prize in Economic Sciences in Memory of Alfred Nobel 1998 "for his contributions to welfare economics" (http://nobelprize.org/ nobel_prizes/economics/laureates/1998/).

[^2]:    ${ }^{3}$ In 1993, the National Oceanic and Atmospheric Administration under the US Department appointed a Contingent Valuation Panel of economic experts to evaluate the use of CV in connection with quantification of non-use values, known as the NOAA Panel.

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[^4]:    ${ }^{6} 1$ US $\$$ was 8 NOK at the time of the study.

