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Analysis

Difference in Preferences or Multiple Preference Orderings? Comparing Choices of Environmental Bureaucrats, Recreational Anglers, and the Public

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ABSTRACT

Do Environmental Protection Agency (EPA) bureaucrats represent the general public or are they more in line with an interest group? We study preferences for environmental policy using a choice experiment (CE) on three populations; the general public, Swedish EPA bureaucrats, and recreational anglers. We also test for existence of multiple preference orderings: Half of the respondents were asked to choose the alternatives that best corresponded with their opinion, and the other half was asked to take the role of a policy-maker and make recommendations for environmental policy. The SEPA bureaucrats have the highest marginal willingness to pay (MWTP) to improve environmental quality. Differences in MWTP are robust and not due to differences in socio-economic characteristics across the populations. We only found weak evidence of multiple preference orderings.

1. Introduction

To what extent do bureaucrats' decisions represent the views of the public? The environmental economics literature give surprisingly little attention to this question. As far as we know, there is only one study that compares the preferences for environmental goods and services between bureaucrats and the general public. Carlsson et al. (2011) used the choice experiment (CE) method, where bureaucrats at the Swedish Environmental Protection Agency (SEPA) were asked to choose the alternatives they would recommend as a policy, while a random sample of the general public was asked about their preferred alternatives. The results showed substantial differences in the marginal willingness to pay (MWTP), with SEPA administrators having higher MWTP for five out of the seven attributes. For some attributes, the differences were two- and threefold. Whether divergence in preferences is good or bad is of course a normative question. While some could argue that environmental policies should reflect the preferences of the general public, others convincingly argue that public preferences are only one piece of factual information among many others (Nyborg, 2014). In addition, the question of how to aggregate the individual preferences is of course highly value-laden. Since the environmental improvements are paid by increased taxes it is possible that a divergence between the preferences of those who decide and ordinary citizens', could potentially increase distrust among citizens toward those who are responsible for environmental policies and management. Especially if the bureaucrats and other decisions makers want to have a larger part of a given budget to environmental improvements or make very different priorities than citizens.

Turning to the risk literature, Carlsson et al. (2012) compared preferences of risk reductions from accidents for a sample of the general public and a group of public administrators. In this study, both respondent groups were asked to answer as if they were policy makers. The results indicate very small differences in most cases. There are other studies that compare preferences regarding environmental resources between the general public and environmental experts, although not those who are directly involved in administrating policy

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(e.g., Rogers, 2013; Colombo et al., 2009; Alberini et al., 2006; McConnell and Strand, 1997).[1] Nordén et al. (2017) compared preferences of citizens, non-industrial private forest owners, and forest officials in Sweden. They found that citizens have a higher valuation of biodiversity compared to forest owners, but it is not significantly different compared to forest officials. Another study that emphasizes different roles is the study by Nilsson et al. (2004) who found that decision makers working in public sector often based their decisions on their private norms regarding environmental values.

In this paper, we use the CE method and study whether SEPA bureaucrats, the general public, and recreational anglers share preferences regarding coastal cod management. In order to control for potential differences due to respondents adopting different decision roles, we apply a split sample approach where each of the three sub samples are randomly split. Respondents are either asked to choose their preferred alternative according to their opinion, or to assume the role of a policy maker and make their choices in line with what they would prescribe as policy recommendations. Hence, we add to the scarce literature on whether public administrators represent the views of the public and we are the first to control for potential differences due to respondents assuming different decision roles. In addition, to the public bureaucrats and the general public, we also collected data from recreational anglers to explore a stakeholder perspective and to empirically test whether the preferences of SEPA bureaucrats are closer to such an interest group than to the general public.

We find that both SEPA bureaucrats and recreational anglers have substantially higher MWTP for improving the coastal cod stocks, compared to the general public. In line with their self-interest, recreational anglers also have a higher MWTP to avoid a complete fishing ban along the coastline, which would affect recreational fishing, compared to both the general public and SEPA bureaucrats. SEPA bureaucrats in their turn do not seem to distinguish between whether the restriction affects commercial or non-commercial fishing.

Does a difference in WTP between two individuals or groups of individuals necessarily reflect differences in preferences? The short answer to this question is no, unless the individuals have single (unique) preference ordering. There are, however, compelling arguments that individuals may have multiple preference orderings (Arrow, 1951; Harsanyi, 1955; Margolis, 1982; Sen, 1977; Nyborg, 2000), where the same individuals can make different choices in different roles and contexts. In line with this, Sagoff (1988, 1994, 1998) argues that, for environmental decision-making, a decision-maker can either express her preferences in the role of a consumer or in the role of a citizen. Nyborg (2000) formalized the implication of different roles in the form of multiple preference orderings for the environmental valuation literature, where the consumer perspective is referred to as *Homo Economicus* while the citizen perspective is labeled as *Homo Politicus*. The *Homo Economicus* is, in Nyborg (2000), non-altruistic and maximizes her own welfare, while *Homo Politicus* considers the best for society and maximizes social welfare. Importantly, note that the same individual can answer as either *Homo Economicus* or *Homo Politicus* depending on the context in which the valuation question is posed. We will have a more careful look at this in Section 2 and show that asking the general public (as laypersons responsible for themselves) and civil servants (in their professional roles, with responsibilities beyond themselves) can result in different WTP, even though they have the same personal preferences for the environmental good.

When asked about their opinion we assume that subjects select according to what they think is best to themselves, but empirically it is, however, possible that respondents also take into account the impact on others well-being. Regarding subjects making policy recommendations we assume that respondents choose according to what they find most suitable for society, but empirically, however, we cannot rule out that some respondents choose according to a strict self-interest. Still, our approach facilitates a comparison between the preferences of the general public and the bureaucrats, where our framing attempts to control for preference orderings and test whether potential differences between bureaucrats' and the public preferences that been reported in previous studies can at least partly be explained by the simple fact that people make different choices in different roles. If framing of the CE question causes a change of in MWTP:s, we interpret it as evidence for multiple preference orderings. If MWTP:s are stable across the framing, this could either be because the design is not powerful enough to detect a significant difference, or because there are no multiple preference orderings.

As far as we know, this is the first study investigating the interdependency between preference orderings and preference discrepancy between the general public and bureaucrats. This is important for two reasons; to confirm the results in previous studies that did not control for the same preference orderings, and to understand whether environmental valuation should be understood through the lens of single (unique) or multiple preference orderings in general.

As mentioned, the environmental problem we study in this paper is the abundance of coastal cod along the Swedish western coast. Healthy coastal cod stocks are part of the targets within the Swedish environmental objective *A Balanced Marine Environment*. SEPA coordinates efforts to meet Sweden's environmental objectives and forecasts that it is not possible to achieve the objective *A Balanced Marine Environment* by 2020 on the basis of policy instruments already decided on or planned (SEPA, 2016). In particular, inshore coastal cod stocks along the Swedish western coast have been severely depleted since the 1970s. Tests by research trawl vessels indicate that the current stock levels of coastal cod correspond to 2–3% of the levels found in the 1970s. The main reason is overfishing by commercial and recreational anglers (Svedäng et al., 2010; ICES, 2010). To obtain a permanent increase in the coastal cod stock in Western Sweden, it is necessary to reduce the current fishing pressure.[2]

The rest of this article is structured as follows. In the next section, we discuss the theoretical framework used in this paper. Section 3 describes the survey, while Section 4 describes the three samples included in this study and how the surveys were administered. Section 5 presents the research hypothesis, Section 6 is the result section, and Section 7 concludes the paper.

2. Theoretical Framework

The theoretical framework used in this study was developed in Brekke et al. (1996) and Nyborg (2000). Each individual *j's* social welfare judgment is based on a Samuelson-Bergsonian social welfare function.

[1] Rogers (2013) compared private preferences of marine experts with private preferences of the general public, also using CE in a study applied in two marine reserves in Western Australia. She found significant differences in preferences between the two groups for one of the marine reserves, while not for the other reserve. Colombo et al. (2009) used CE to obtain general public preferences, and the Analytic Hierarchy Process method to obtain expert preferences, and found similar attribute rankings in the two groups. Alberini et al. (2006) used rating exercises, CE, and ranking exercises to measure preferences of general public and public officials/other stakeholders for a historic site in Italy. In some cases the opinions of general public sharply differed of the views of the stakeholders and public officials, while for other aspects the preferences were more similar between the groups. McConnell and Strand (1997) found differences in WTP between scientists and the general public, but those were mainly due to higher male representation among the scientists.

[2] The Swedish general public is fairly well informed about coastal and marine issues and the problems with coastal cod. The decrease in cod population has been intensively debated in the media over several years' time. In 2002, the Green Party made Baltic Sea cod stock recovery a major election issue in Sweden (Eggert and Olsson, 2009), and in 2014 the WWF Sweden launched a campaign for a consumer boycott of Swedish shrimp, which received a lot of media attention. Moreover, fishing in coastal waters is open to all and more than 10% of the Swedes are recreational anglers (The Swedish Agency for Marine and Water Management, 2016).