

Nudging fishing behaviour to optimize cod catches

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Abstract

In the debate about fisheries management, a key question is how to achieve compliance with regulations at the lowest possible costs. Nudge Theory is based on the idea that positive reinforcement to achieve non-forced compliance can influence people's compliance more effectively than direct instruction or enforcement. A previous study on catch quota management for cod indicated that the 'nudge' created by the government for the fishers to optimize cod catches worked out differently than expected. The nudge included extra cod quota of 30% under the condition that all cod catches, including undersized fish with no value, are counted against the quota. It was found that the nudge had no effect on fishing behaviour of the small vessels. In contrast, large vessels increased their cod landings more than expected (216%) and avoided undersized cod. This study demonstrates that nudging is not straight forward in fisheries management. Individual fishermen have different sets of contextual factors to consider besides the nudges that are provided, such as regulations, vessel and gear characteristics, prices and abundance of target species and available quota. We have used these insights to develop our new research which will investigate behavioural changes of the same participating fishers under the same conditions, but by taking out one of the contextual factors that prevented the small vessels from changing their behaviour in the previous project, restrictions by technical regulations. Under these conditions an improved nudge is created to reduce bycatch of undersized fish and maximize the revenue of their catches, with the ability to use technical adaptations that normally, under the conditions of the current technical regulations, wouldn't be possible.

Keywords: catch quota management, fishing behaviour, nudging, technical measures, fisheries management, cod.

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