## Can quota trade mitigate the economic effects of the Landings Obligation? A generic study based on the case of the Danish North Sea demersal fishery.

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## Abstract

In 2013 full retention, named a landing obligation (LO), was agreed upon in the European Union's Common Fisheries Policy, with the intention of phasing it in from 2015 to 2019. The function of the LO is that all fish caught must be landed and counted against the Total Allowable Catches, both intended target species and unintended bycatch. The aim of the LO has been to ensure that fishing activities are environmentally sustainable in the long run and are managed with the objectives of achieving economic, social and employment benefits. However, fishers have questioned whether the latter objectives are achievable under the LO. They fear that their income will be reduced, their operational costs increased and that further investments are needed. However, the final economic outcome for fisheries subject to the LO must depend on the characteristics of the fishery and on the local management system on which the LO is superimposed. The present study applies data based on a real fishery (the Danish North Sea demersal fishery) in a numerical bioeconomic management assessment model and evaluates the economic impacts of the LO for the considered fishery, given two management regimes; one based on Individual Transferable Quotas and one based on individual non-transferable quota shares. The study indicates that possible negative economic effects of the LO can to a considerable degree be mitigated given the possibility of quota reallocation between fleets. As such, the study contributes to the ongoing debate regarding whether the LO will have serious economic consequences for EU fishers. Given that the study simulates a real fishery makes the results applicable as indicators for economic consequences of the LO for several similar fisheries, given the management system they are subject to. As such the results are a valuable contribution to national policy discussions following the implementation of the LO.

Key words: fishery economics, landings obligation, full retention, Individual transferable quotas, non-transferable quota shares, non-linear programming

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