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Theme: Modelling

Session: TuC3 - Biological (BRP) and Bioeconomic (ERP) Reference Points

Title: **On cost efficiency in the Barents Sea cod fisheries**

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Abstract: The theoretical economic performance of the year 2000 Norwegian fishing fleet in the Barents Sea cod fisheries are studied under different stock biomass levels and age compositions by applying the EconMult fleet model. Quarterly stock conditions during the period 1946-2004 have been investigated as this represent stock conditions which may naturally occur. Cost profiles and prices are from Norwegian official statistics of year 2000, while the harvest production equations are from the EconSimp2000 model. The study confirms a close relationship between relative economic performance between fleet segments and the stock properties. No dominant factor is found, as both stock properties, stock-output elasticities and fleet cost compositions are all important factors influencing the final result. Stock size and age composition in stock are however important factors, particularly the latter. The study indicates that bottom trawl may be relatively more efficient the second half of each year when the cod availability is reduced, while gill netters and long liners dominate the first half; except in years of extreme biomasses, as these often are characterised by large biomasses of young cod which suits the trawler fleet better than the conventional fleet.