Centralised horizontal cooperation and profit sharing in a shipping pool - DTU Orbit
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Centralised horizontal cooperation and profit sharing in a shipping pool
Horizontal cooperation in logistics has attracted an increasing amount of attention in both industry and the research community. The most common form of cooperation in the tramp shipping market is the shipping pool, formed by a fleet of ships from different ownerships operated by a centralised administration. This paper studies such a centralised horizontal cooperation, a product tanker pool in Denmark, and addresses the operational challenges, including how to maximise the pool profit and how to allocate it fairly. We apply discrete event simulation and dynamic ship routing and speed optimisation in order to maximise the pool profit in a highly dynamic environment and apply methods derived from cooperative game theory when allocating the total profit. Through a large number of experiments on realistic data, we evaluate the benefit of cooperation under different scenarios, present the results from the profit allocation and analyse the effect of pool size on the total profit and ship utilisation rate.

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Corresponding author: Wen, M.
Contributors: Wen, M., Larsen, R., Røpke, S., Petersen, H. L., Madsen, O. B.
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