## Referee Report on: "The optimal port privatization levels under inter-port competition: considering both horizontal and vertical differentiation"

by Wei (Walker) Wang, Xiujuan Liu, Lili Ding, Chen Li, and Wensi Zhang

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## $\Box$ Abstract

▷ This study explore a theoretical model to investigate a mixed duopoly competition between a private port and a partially privatized public port. The authors derive the differentiated-goods Cournot equilibrium by two ports as well as that Bertrand equilibrium.

My main comments are as follows:

- 1. In their model,  $T_i$  denotes the operational cost of a customer using port *i*. Originally, as consumers bear the cost, consumer's utility function should include the operation cost. However, in the model,  $T_i$  is included into firms' prices and firms can fully levy the operation cost from consumers. As it seems to be quite odd, an appropriate justification is required to the authors.
- 2. The authors should explain the appropriate reason why both Cournot and Bertrand competitions must be examined. Although we can envisage the price competition between ports through port usage fee, we cannot imagine any realistic situations in which ports engage in quantity competition, such as the number of container ships.
- 3. The authors should compare Cournot competition with Bertrand competition to explain the effect of social welfare on the difference in competitive forms or strategic variables. In this study, the authors just provide the calculating results of both equilibria.
- 4. Readers including the reviewers would like to know the economic implication in more detail. For example, in Figures 1 and 2, we would like to know the economic reason why the difference in the degree of privatization derives and which competition is likely to promote privatization of port.