Summary

The paper examines the optimal decisions for a lot-for-lot production system with a single-supplier and a single-buyer facing deterministic demand. Other than the existing joint economic lot-sizing literature assuming that the supplier has full information about the buyer’s cost structure, the authors consider the situation that the buyer’s holding cost is unobservable to the supplier. Two contracts are proposed and compared: the supplier’s optimal contract under full information and optimal quantity discount contract under asymmetric information.

Contribution

1. This paper is among the first few papers considering optimal contract policy under asymmetric information in EOQ environments.

2. In contrast to most existing work that assumes that the supplier must trade with the buyer, they explicitly include a reservation net cost level for the supplier above which he will refuse to trade with the buyer.

3. This paper is the first one in the literature introduces the cutoff level policy. Cutoff level policy in contracting is that one party of the contract is allowed to refuse to trade with the other party (parties) if her (their) costs are above some cutoff level.

Major issues

1. The assumptions on prior distribution, especially Assumption 2, are too specific. The results are limited by these assumptions.

2. This paper does not provide the proof of the major results or findings. It mentions that the proof of Proposition 1 is provided in Corbett and de Groote (1997), but the referred paper is a working paper and can not be found anywhere. Actually it is just ”presented at the first Xavier de Groote Memorial Conference”.

3. Although they present a cutoff level policy for contract signing, they have not shown that such a policy is optimal for their problem (See Ha 2001).

4. Authors may consider the problem that demand is affected by the lot sizing or reduction of unit price.
5. Only the uncertainty about the buyer’s holding cost is considered. More uncertain parameters such as buyer’s ordering cost can be analyzed.

6. Supplier’s holding cost is taken to be zero - a limiting assumption.

**Minor Comments**

1. On p.448 (left half), Equation 9 should be \( \frac{\bar{h}_b}{2} Q_{AI}(\bar{h}_b) \).

2. On p.448 (left half), after Equation 10, it’s better to prove that the buyer’s cost function is convex in \( h_b \).

3. On p.448 (right half), Equation 20, a “2” is missing in \( \sqrt{(k_s + k_b)d} \).

4. On p.449 (left half), line 22, change “decreasing” to “increasing”.

5. On p.449 (left half), the 7th line above the bottom, delete “In the full information case,”.