Responses to Reader Comment

The authors appreciate the referee's insightful comments and suggestions. Here we respond to the following questions.

1. Thank you for your reminding. We will redefine the π_i being equal to the integral of the terms between brackets as follows

$$\pi_{i} = \int_{0}^{m} (p_{ij}^{x} x_{ij} - w l_{ij}^{x} + f_{ij}) dj$$

2. Thank you for your valuable suggestion. The return to specialization mainly refers to Ethier's(1982) specification of return as diversity of intermediates that is used. We will cite it in the revised version.

Reference:

Ethier, W.J. (1982) National and International Returns to Scale in the Modern Theory of International trade. *American Economic Review*, 72, 389-405.

3. Thank you for your reminding. We agree the referee provide us an interesting novel anlysis. Proposition 1 (ii) indicates that in the forward integration case, viz. $\theta \rightarrow 0$, the intermediate goods firm with full bargaining power will extract all the rent. That means this rent namely maximize the joint surplus that will be gained by intermediate goods firms. Please see Eq. (13) on page 6.