## Referee's report on "Effects of Intellectual Property Rights Protection and Integration on Economic Growth and Welfare," by Chung-hui Lai and Vey Wang

This is an interesting paper worthy of publication. Basically, deploying an endogenous growth model, this paper examines the impacts of rent/franchise fee and institutional quality to economic growth and social welfare, and concludes that the growth-maximizing effects of IPR protection, the bargaining power of intermediate goods firms, and the imitation of technology are no longer equivalent to those effects on welfare maximization since the welfare result depends on the relative degrees of the growth enhancing effect and crowding-out effect on production.

The paper adds two novel ingredients to Dixit and Stiglitz's model. Firstly, it introduces intellectual property rights (IPR) and franchise bargaining system. Secondly, it embodies R&D sector and investigates the growth and welfare effects of IPR. Thus, the paper introduces a new dimension to a well-known R&D growth model. It is relatively simple; so its arguments are transparent. The model has a mathematical property, which makes this investigation easy without a need for simulations. I have some minor comments below for enhancing the clarity of the paper:

- 1. On p. 4 equation (1): Just wonder why  $\pi_i$  is not equal to the integral of the terms between brackets.
- 2. On p. 4 equation (3): Explain that why this equation indicates returns to specialization, rather than return to diversity of intermediates.
- 3. On p. 7 Section 4: The author discusses the backward/forward integration, just doubt that if firms integrate, they will try to maximize the joint surplus because the parent firm (upstream or downstream) will intrinsic subsidiary profits. In this situation, the investment in R&D will be considered both the profits of the intermediate goods firms and the final goods firms.