Referee report on

"Effects of Intellectual Property Rights Protection and Integration on Economic Growth and Welfare" by Chung-hui Lai and Vey Wang

This paper is a theoretical attempt to re-examine the effects of intellectual property rights (IRP) on growth and welfare. In particular, they investigate the growth and welfare effects in a model with franchise fee bargaining mechanism. The findings are (i) IRP has a positive growth effect on growth, while a stronger bargaining power of the intermediate good producers has a negative growth effect; and (ii) both have an ambiguous effect on welfare.

I am sympathetic with the importance of the issue; the issue analyzed in this paper is one of the main issues in the R&D literature so that the interest of the subject is guaranteed. However, I have some comments on some assumptions, the model setting and the presentation of the current version.

Comment

1. In addition to R&D, imitation process plays an important role in the analysis. The production function of a R&D firm is $x^M = l^x$, while imitators' production function is given by: $x^E = \frac{1}{b} l^x$. The R&D firm is a monopoly, but imitators operate in a perfectly competitive market. If so, why the authors can put these two different types of firms together and call it as the "representative" firm? Monopoly and the firms in the perfectly competitive market should have very different behaviors, including distinct strengths of bargaining power and so franchise fees. Such a model setting is obviously not appropriate.
2. Equation (3) is the production function of the final good producers

$$y_j = n^{\mu}(n^{-1}\int_0^n x_{ij}^{1/\alpha})^{\alpha}$$

I should point out that this is NOT Dixit and Stiglitz's original specification. Instead, it is Romer's (1986) functional form, indicating that there are increasing returns to the quantities employed of a variety of intermediate goods if $\mu > 1$, while there are decreasing returns to an expansion in such a variety if $\mu < 1$. As is evident, whether μ is larger than one plays a crucial role in determining the balanced-growth rate (see equation (28)). Once $\mu = 1$, the growth effect disappears. I think the authors should describe this more carefully.

3. Proposition 3 is an important result of this study. Nonetheless, I don't think the authors provide clear intuitions for it. Particularly, it is vague concerning the results: (a) the markup $1/\sigma$ has a positive growth effect and (b) labor spillover *b* increases the balanced-growth rate.
4. Is the welfare analysis is novel? The welfare result reported in equation (30) seems to be common in the literature. To contribute to the related literature, the authors should provide more implications to the results in equations (31) and (32).
5. The authors should explain why *b* implies labor spillover? Similarly, why $\theta \to 0$ means a forward integration? Why $\theta \to 1$ implies backward integration? Under such cases, the final good and intermediate good firms integrate into an identical firm?

Reference:

Romer, P. M. (1986). Increasing Returns and Long Run Growth. Journal of Political Economy, 94, 1002-37.