

Referee report of Economics 1249-1 “Effects of intellectual property rights protection and integration on economic growth and welfare” by Chung-Hui Lai and Vey Wang.

The authors propose an endogenous growth model based on variety accumulation with imitation and a franchise bargaining system. The model represents an extension of previous work by the authors and collaborators (Wang et al. (2010)) and examines the effects of stronger protection of IPRs on growth and welfare. Stronger IPRs protections leads to higher long run growth and has an ambiguous effect on steady state welfare.

This paper belongs to a crowded body of theoretical literature analyzing the long-run growth effects of IPR protection. My evaluation of the paper’s contribution to the theory of growth is based on the following questions: is there a methodological contribution relative to Wang et al.(2010)? Is modeling of imitation “novel” enough and/or correct? Are there any surprising (not obvious) main findings? The following paragraphs address briefly these questions and lead to the conclusion that this paper offers a marginal (if any) contribution to the literature on economic growth and IPRs protection.

1. The model proposed in the present paper is identical to the work of Wang, Lai, Lee and Hu (2010) who construct an endogenous growth model with franchise fees, Nash bargaining between intermediate and final good producers and economic growth based on variety accumulation. Specifically, preferences, market structure, the growth mechanism and even notation are identical between the two models. There are three differences: first, the exposition of Wang et al. (2010) is clearer and more intuitive; second, the present paper adds exogenous imitation; and third the present paper analyzes the welfare effects which are missing from Wang et al. (2010). As a result, it is fair to claim that the paper represents a minor extension of previous work by the authors.
2. Since the new element is the imitation process, I was hoping to find novel assumptions and results. Section 2.1 defines the degree of IPR protection by q which is the probability that an inventor can enforce his/her patent in court and prevent imitation. In Wang et al (2010) this probability equals unity, whereas in the present model this probability is less than unity. The authors adopt the standard interpretation of this probability proposed by the literature of North-South trade, namely that with probability q the product of an intermediate good producer is copied by a competitive fringe and the imitated version is produced competitively. In Section 2.2 the authors proceed with considering the production function of a representative firm and claim that the behavior of a firm can be modeled as if the firm produces an output equal to $x = qx^M + (1 - q)x^E$ where x^M is output produced under no imitation and x^E is output produced under imitation. In my view, this modeling of firm behavior is not correct (unless the authors can prove it using the following reasoning): at any instant in time, a fraction of intermediate good producers equal to q will enjoy monopoly production and a fraction of intermediate products equal to $1 - q$ will be produced under perfect competition. Each product will command a different price and thus we will have two types of franchise fees one for firms without imitation and another for

- competitive firms. The authors instead assume that the Nash bargaining occurs between a representative firm producing an intermediate good x and m final good firms. I am not persuaded that the proposed approach is correct. Therefore the results of the paper pertaining to IPR protection are not correct in my view.
3. The authors present two intuitive set of results. Proposition 2 states that factors that increase the flow of profits of firms producing intermediate goods increase long-run growth; and Proposition 3 establishes that the effects of exogenous imitation or bargaining power on welfare are ambiguous. These are good results that are common in the majority of growth models with imitation.

Reference:

Wang, V., C.H. Lai, L.S. Lee, and S.W. Hu, (2010), "Franchise Fee, Contract Bargaining, and Economic Growth" *Economics of Innovation and New Technology*, 19, 539-552.