

“Welfare Effects of Intellectual Property in a North–South Model of Endogenous Growth with Comparative Advantage”

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Summary The paper considers the static and dynamic welfare costs and benefits of intellectual property rights enforcement in LDCs. The model is embedded in the Grossman/Helpman (1991) setting of endogenous growth, with two countries, North and South, and two types of goods. The North is the more productive country. Both countries enjoy comparative advantage in producing one specific type of good. Only the North is innovative and creates new varieties of the goods.

While the North is more likely to lose from IP piracy, the welfare effects for the South are ambiguous. The author distinguishes between static and dynamic effects following intellectual property rights protection (or piracy respectively):

- IP piracy allows firms from the South to sell goods at competitive instead of monopoly prices which generates a static positive welfare effect for consumers.
- IP piracy provides incentives for the North to redirect innovative activities towards goods for those the North has a strong comparative advantage. If the learning externalities associated with these goods are sufficiently small, so will be the dynamics effects with respect to growth.

Altogether, the South may lose from IP piracy in terms of welfare, if the above mentioned R&D reallocation effect dampens growth and coincides with a strong home bias for goods produced in the South. The North might even prefer piracy, if patient enough to benefit from the dynamic gains. The model is calibrated and simulated numerically to obtain sensitivity results, especially with respect to the role of the markup.

Assessment The chosen topic clearly is an important one. The author provides important insights into the short-run and long-run costs and benefits of (insufficient) intellectual property rights enforcement. The incentive structure and the underlying mechanisms giving rise to the static and dynamic effects are well described. The paper is written in a clear and understandable manner.

I only have some minor comments on the paper:

- (a) At present, the manuscript lacks an abstract.
- (b) Perhaps the author could provide some information on the scope of international IP piracy (e.g. in terms of foregone income relative to GDP).
- (c) I would like the author to be more extensive in the discussion of the full enforcement scenario in Section 3.2, which is very short at the moment. The reader is rather left alone in the interpretation of Table 2 (caption is missing) and associated Figure 2.
- (d) CE1 and CP1, already noted in Tables 1 and 2, are mentioned for the first time on page 10. Why does $\frac{\alpha(L_A - L_B)}{(1-\beta)L_B} < b/\mu$, given CE1, also imply that CP1 holds? Some explanatory remarks in this place would be useful. I have the impression that earlier versions of the paper included the derivation of the equilibrium in the main text, and that only subsequently this part was shifted to the Appendix.
- (e) Table 3, p. 11: Perhaps the author could give some intuition on the underlying market dynamics generated throughout the transition from IP protection to IP piracy, which give rise to the results listed in Table 3.
- (f) Section 5.1: The importance of the markup could be highlighted right from the beginning. I would also like the author to consider bundling the results related to the effects of the markup in this section, instead of referring to the previous section. What qualitative argument lies behind the chosen model calibrations? Perhaps the author could give some economic intuition.

Since there is no section 5.2, section 5.1 should be transferred to a separate section 6.

- (g) It is a matter of taste, as to whether or not the derivation of the equilibrium should be included in the text or relegated to the Appendix. Personally, I prefer to have market clearing conditions and equilibrium prices in the text, but am equally content with the present structure of the paper. I would, however, advise the author to carefully review to what extent the text implicitly draws from the Appendix without giving references explicitly (see also my remarks in item (d)).
- (h) The markup is entirely determined by the pairwise elasticity of substitution between goods. What implications for welfare benefits, or losses respectively, can be derived for empirically plausible values for μ and the discount rate?
- (i) The Appendix lacks structure.
- (j) More generally, intellectual property rights enforcement might not only affect growth via patterns of trade, comparative costs, and specialization but also via the FDI channel and knowledge embodied in investments. Although the author does not include physical capital in his analysis, I would like a short discussion of this aspect in the conclusions. For instance, anecdotic evidence from Europe tells that small and medium size enterprises already start to withdraw from the Chinese market and reduce their FDI due to insufficient IPR protection.

Typos

- p. 3, *Time* is continuous, instead of *Times* . . .
- p. 10, between the two formulas at the bottom , *and*
- p. 14, between second but last and last paragraph: an extra dot without a sentence.