TITLE: ON INDIRECT TRADE-RELATED R&D SPILLOVERS: THE ROLE OF THE INTERNATIONAL TRADE NETWORK

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ABSTRACT:

The paper aims at investigating the role that one country's position in the international trade network has in attracting knowledge and technology flows to it. By referring to "indirect" Research and Development (R&D) spillovers, we argue that not only is this position responsible for the number of R&D flows one country benefits from, but also for their economic impact to an extent depending on the number of trade relationships which separate it from its trade partners. This argument is developed by extending to trade-related R&D spillovers the intersectoral "Average Propagation Length" (APL) of exogenous shocks in sectoral final demand or value added. The inter-country APL of foreign R&D is then used to weight the (total factor) productivity impact of the foreign R&D stock available to one country, along with that of the R&D stock produced domestically. Different specifications of such an econometric model are estimated with respect to 21 OECD countries over the decade 1995-2005. The results are consistent with those of the models which explicitly recognize the role of indirect R&D spillovers: in particular, the TFP elasticity of the foreign R&D available stock is greater than that of the foreign R&D produced stock. The APL based results are however more robust, as they depend on the actual economic distance in trade of one country from the others, rather than, as in previous models, on the (most fitting) estimated value of its economic consequences.