

Trade-Innovation Alignment and Economic Growth*

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Abstract

We explore whether the improved alignment between international trade and innovation contribute to economic growth and also seek to identify the channels of such effects, by differentiating the growth channels by TFP, composite capital input, and job creation. For this purpose, we construct an alignment measure, called *TID* (Trade-Innovation Distance) index, representing the degree of sectoral matching between international trade and innovation, where the ‘innovation’ is measured by the stock of the discounted sum of new patents. It turns out that the improved alignment between international trade and innovation significantly contributes to economic growth, and the main channels are TFP growth and job creation rather than capital accumulation. We also find that the size of the patent stock itself does not play an important role for promoting economic growth, but does so via its better alignment with international trade. Furthermore, trade openness contributes to expanding the extensive margin of job creation, hence to economic growth in a substantial order of magnitude, but this growth effect is cancelled out by the negative contribution of trade openness to economic growth via the capital accumulation channel. Performing various sensitivity analyses suggests the robustness of our main findings about the relationship between the TFP growth and the trade-innovation alignment.

JEL: O11, O47, O31, F14, F43

Keywords: Economic Growth, TFP, International Trade, Trade Openness, Innovation, Patents, Resource Allocation Efficiency

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