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**North-South Technological Diffusion:  
A New Case for Dynamic Gains from Trade**

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Abstract:

This paper studies the transitional dynamics in a quality ladder model of endogenous growth in which North-South trade leads to technological diffusion through reverse engineering of intermediate goods. The concept of learning-to-learn is incorporated into both imitative and innovative processes, which in turn drive domestic technological progress. International trade with imitation leads to feedback effects between Southern imitators and Northern innovators who compete for the world market. Consequently, both regions face transition paths dependent on their relative technologies. Using numerical solutions we see that rates of innovation and imitation are initially high but fall as the technology gap decreases in transition to steady-state. Increased interaction between the two regions leads to higher world growth, demonstrating dynamic benefits to the South of increased trade with a more developed region. Despite faster per capita output growth, transition costs lead to decreased Northern welfare, although this loss is attributable to the lack of intellectual property rights rather than trade per se. The fall in Northern innovation as the technology gap between the two regions is reduced may explain the slowdown of measured total factor productivity growth in OECD countries over the last 30 years.