Effect of International Trade on Wage Inequality with Endogenous Productivity

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Abstract

This paper proposes a framework to explain how technology frontier and labor composition of a country affect its as well as its partner's wage inequality through international trade. Based on the theoretical literature on general-equilibrium monopolistic competition model regarding international trade between two asymmetric countries, I derive a new version where firms' technology is endogenized. Firms in countries which are skilled-labor-abundant choose technologies that are appropriate to skilled labor, and vice versa for firms in countries which are unskilled-labor-abundant. In trade, the wage gap between each type of labor depends on the comparative technology frontier, the comparative ratio between unskilled and skilled labor in both countries, and the trade-off between two types of labor. These effects on wage inequality are partially absorbed by technology endogeneity; in other words, in a model where a firm utilizes given technology system only, the effect on wage inequality is amplified. Furthermore, based on calibration results, it is found that this amplification may cause misunderstanding in the recognition of the role of openness on wage inequality. Under the proper valuation by endogenizing technology system, the open to trade makes the wage for a type of labor between two countries become more equal. However, with given technology system, the conclusion of the influence of openness on comparative wage is completely opposite, which is, the decrease in transport cost makes the wage between two countries become inequitable. Last, country with higher ratio of unskilled labor will exhibit larger wage inequality driven by skill differences.

Keywords: International trade, Endogenous technology, Transport cost, Wage inequality

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