

A New Test of Economy-wide Factor Mobility

Topic: (7.1) Mathematical Treatments of Input-Output Relationships

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A long-standing debate in international trade is the degree to which various factors of production, such as skilled and unskilled labor and capital, are industry-specific or are free to move between sectors. If factors are specific to industries, one would expect to find substantial differences in factor returns across industries. If they are mobile between sectors, one would expect to find similar factor returns across industries. The degree of factor mobility has huge implications for how the benefits of trade are distributed, and it is the basis for a large theoretical and empirical literature on the political economy of trade. The implication of inter-industry factor price equalization extends well beyond debates on the impact of international trade, informing Baumol's famous cost disease argument that productivity growth in manufacturing will raise wages and hence costs in service sectors.

This paper constructs a simple Wald test based upon the hypothesis that all factors of production are mobile between sectors. We evaluate the hypothesis using consistent data from the World Input-Output Database that covers 35 industries and up to 4 factors in 40 countries. The null hypothesis of frictionless factor markets cannot be rejected in 24 countries in the benchmark year 2005 for two factors, labor and capital. We also evaluate a breakdown of skilled and unskilled labor based on college educations. In 19 countries we cannot reject the null hypothesis of factor mobility at this more disaggregated level. In those 16 countries in which labor and capital are immobile, we show substantial distortions reflected in excess earnings by either labor or capital, depending on the country.