Intermediate Input Substitutability and Industrial Policy

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Abstract:

In this paper we estimate long-run elasticities of substitution between intermediate inputs used by Indian manufacturing plants. We use detailed data on plant-level intermediate input expenditures, and exploit variation in import tariff changes across material inputs following India's trade liberalization for identification. We estimate a plant-level elasticity of substitution between material inputs of 4.3, significantly above the Cobb-Douglas benchmark. We embed our elasticity estimates into a general equilibrium model with heterogeneous firms, calibrated to plant- and sector-level data for the Indian economy. The departure from Cobb-Douglas is quantitatively important: the aggregate welfare gains from large productivity increases in any one of 29 sectors, sufficient to close the productivity gap between India and the U.S. in that sector, are on average 1.66 times larger with our estimated elasticities.