

North American Sub-National Model of Import Competition and Jobs

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Utilizing OECD ICIO data, U.S. BEA survey data, and Canadian inter-provincial SUT data we construct an Inter-North American, sub-national Armington CES type industry-specific model that quantifies the impact of trade policy on workers in the NAFTA region, while allowing transportation costs separate product and labor markets into sub-national regions. We contribute to the literature by introducing a parsimonious model that allows for heterogeneity in the policy impact across sub-national regions, which is typically lost because most data are collected at the national level. We use the model to simulate the impact of a hypothetical ten percent reduction in the cost of importing household appliances from China on employment in the competing North American industry. The model illustrates, in a simple way, how nationally uniform changes in trade policy or in other costs of importing can have significantly different effects on employment in different parts of a country, depending on differences in import penetration into the regions. We present two cases. In the first case, the national product market is fully integrated nationwide and in the second case the product market is separated into regions and there are no inter-regional shipments. In the second case, the employment effects vary across the regions. These extreme market integration scenarios define lower and upper bounds on the differences in employment effects across the regions. An extension of the model that includes inter-regional shipments provides intermediate estimates of employment effects that again vary by region.