

Production Networks and War: Evidence from Ukraine

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Abstract :

We study how large exogenous shocks affect countries and regions through the disruption and reorganization of production networks. We develop a sufficient statistics approach for measuring a shock's impact on welfare that holds regardless of the microfoundation of endogenous production network formation. Using unique firm-to-firm railway shipment data within Ukraine, we apply our framework to quantify the propagation effects of the 2014 Russia-Ukraine conflict. We find large disruption of production linkages to and from direct conflict areas, which are imperfectly substituted by linkages strictly outside the conflict areas. In a difference-in-differences framework, we document a strong negative relationship between changes in regional welfare following the conflict, as measured by our sufficient statistics, and the degree of supplier and buyer exposure that regions had to the conflict-affected areas. Our results show that the conflict led to a 17% reduction in welfare for an average district, compared to districts without supplier and buyer conflict exposure. This empirical evidence provides insight into why localized conflicts within a country or region often have far-reaching detrimental consequences for the broader economy.