

Network Interdependencies and the Evolution of Arms Trade 1953-2013

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Abstract

Few states produce all their own military hardware. Therefore, most countries seeking to build up their military capabilities rely on the import of weapons. The resulting network of international arms transfers reflects both security and economic concerns. Based on the political economy model of arms supply and demand and on the gravity equation in international trade, we develop a new network-oriented explanation for the world-wide transactions of major conventional weapons in the period after World War II. Using so-called temporal exponential random graph models (TERGMs) and sender- and receiver-specific node attributes, our dynamic approach shows for the first time how network dependencies as well as the trade-off between economic and security incentives vary over time. Path-dependency and subsystemic processes are important determinants of the proliferation dynamics. Security considerations are regaining in importance after 2001. Contrary to the persistent role of the distance parameter in the gravity equation of international trade, we do not find the effect in this sector. Our model exhibits strong out-of-sample predictive performance.