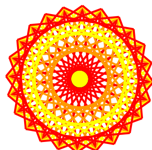

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What Drives Economic Contagion? Findings from a Borrower-Lender Game

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The 2010 Eurozone debt crisis demonstrated a significant source of risk to economic stability; adverse economic events in one country can quickly spread across countries and regions. While other post-crisis spillover effects occur over extended periods of time, this spread of crises, a phenomenon known as contagion, results in effects that occur in the short-term. The process by which contagion occurs can follow from cascading shocks spread through trade and debt channels. Alternatively, the same effect can be produced by common-cause shocks where multiple countries experience similar adverse shocks simultaneously.

Our aim is to elucidate the key driver of contagion, whether it be debt, trade, the combined effect of debt and trade, or a common cause. We adopt an interdisciplinary approach by combining traditional economic modeling with methods from engineering risk analysis. We present a within-period sequential-move game with two borrower countries and a single lender to model the process of contagion immediately following a crisis. Each borrower can receive adverse independent and common-cause shocks, which can then spread through debt and/or trade channels. We model the effect of specific contagion channels through subgames – a debt model, a trade model, and a model with both debt and trade (to highlight their interaction). We discuss how contagion could occur through each channel, explain how lender beliefs can drive contagion even in the absence of cascading shocks, and give recommendations on how future crises could be managed.