

## The Dangers of Payment Variability for Supply Chains

**Today's companies are relying more heavily on trade credit, which amplifies the risk of financial contagion in a supply chain. A new model follows financial flows to explain the propagation and amplification of payment variability — and risk — throughout supply chains.**



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What impact do financial flows have on the operational performance of a supply chain? This is no small matter given that businesses are increasingly leveraged and the propagation of risk and financial distress throughout a supply chain affects risk perception and decision-making in each link.

Payment variability is one of the risks facing businesses along the chain. In a pinch, financial contagion can spread from one supply chain into the industry at large and beyond.

Two trends make financial contagion through payment variability very relevant today. First, companies are relying more heavily on trade credit, where a retailer receives goods from suppliers on credit, to be paid for at a later date. For example, accounts payable represented about 15 percent of total assets for U.S. retailers and this proportion had increased by about 40 percent between 2005 and 2014. Second, an increasing number of firms in the United States and elsewhere are paying after due dates or defaulting on payments.

Against this backdrop, [Alejandro Serrano](#), Rogelio Oliva and Santiago Kraiselburd [study the causal mechanisms behind payment variability](#) and provide some clues to help spot financial contagion as it emerges in supply chains.

## **A Descriptive and Practical Model**

Based on the policies and structural constraints of supply chain participants pointed out by previous research, the authors develop a model of a simple supply chain and calibrate all its observable parameters.

The result is a descriptive model that not only reproduces the observed propagation in payment variability but also shows that said variability may be amplified as it is propagated along the supply chain — something which the previous literature had not flagged.

Among their findings are that limited access to funds can generate, propagate and amplify payment variability with direct implications for company risk as a result.

The model can be used to assess the impact of the risk factors identified in the academic literature cited by Serrano and colleagues. They conclude that industry risk, operational leverage, leverage target and cost of debt are factors that exacerbate payment variability.

Even more importantly, the study has practical implications for managers. For example, business decisions made with respect to the aforementioned risk factors affect not only a company's direct suppliers but also its suppliers' suppliers. The authors also provide a warning: under strained financial circumstances, managers may be tempted to reduce payment variability and increase order variability, something which may benefit direct suppliers while ending up increasing payment variability upstream on the chain.

## **Methodology, Very Briefly**

The authors draw on existing academic literature to build a descriptive model which provides a causal explanation of previous empirical findings.

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