The Hong Kong Polytechnic University
Department of Logistics and Maritime Studies
Research Seminar

Financial Pooling in a Supply Chain

by

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(joint work with Ming Hu and Qu Qian)

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Venue: R602, Shirley Chan Building
The Hong Kong Polytechnic University

(Conducted in English)

Abstract:

Trade credit is a common component in supply contracts. Large buyers with easier access to financial market often demand trade credit from small suppliers with higher financing cost. Moreover, many buyers also delay paying their suppliers beyond the agreed due day. Prior literature attributes this phenomenon to quality assurance or buyer's abuse of bargaining power. In this paper, we show that pooling could be another reason behind this practice. Using a game-theoretical model that explicitly captures the liquidity shocks faced by different supply chain partners, we analyze the total financing cost of the supply chain under endogenous supply contract and liquidity policies. We show that the embedded stretch option of trade credit allows supply chain partners to pool their liquidity buffers. Due to this pooling effect, even as the supplier's financing costs are strictly higher than the buyer's, the buyer may still demand for trade credit from the supplier for a purely financial reason. Under our framework, trade credit is more efficient than cash on delivery when the supplier's cost for collecting trade credit is low (e.g., when the retailer trusts the supplier) or when the supplier does not have access to a low-cost financing channel when facing liquidity shocks. While trade credit can only be more efficient than cash on delivery when the supplier's liquidity shock is sufficiently volatile, it may still benefit the supply chain when the buyer faces a deterministic liquidity shock. The benefit of pooling increases as the buyer has a more diversified supplier portfolio. As an innovative financing scheme, reverse factoring further enhances the efficiency of this pooling effect, and as a result reduces the overall supply chain financing cost.

Bio:

S. Alex Yang is an Associate Professor of Management Science and Operations at London Business School (on leave in 2018) and Associate Professor in the Faculty of Business and Economics at University of Hong Kong. Alex teaches the full time, part-time, and executive MBA, and executive education programs. He received his PhD and MBA for The University of Chicago Booth School of Business, and his Bachelor degree from Tsinghua University, China. Alex's research focuses on supply chain finance (e.g., trade credit, factoring, credit insurance), managing operations under financial constraints (e.g., bankruptcy), supply chain management, and risk management. His research has appeared in premier management and finance academic journals. Alex has working and consulting experience in companies including supply chain finance start-ups, hedge funds, and airlines.

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All are welcome!