How the interactions between firms along a supply chain affect their asset prices

The finance literature has neglected until recently the study of how customer-supplier strategic interactions may affect firms' asset prices. ***Maria Cecilia Bustamante*** *investigates how a firm's ability to negotiate input prices in supply chains affects its valuation and expected returns. She finds that firms with greater impatience to invest have less bargaining power while negotiating input prices, thus extracting a lower fraction of the profits occurring along a supply chain. Firms with greater vertical bargaining power, such as Amazon, are not only more valuable, but also yield higher expected returns.*

The spectacular growth of star firms such as Amazon and Google in recent years, as well as the damaging effects of the COVID-19 pandemic, have manifested the importance of supply chains as part of a firm's competitive strategy. Recent academic articles on U.S. journals in law, as well as recent press releases, highlight how star companies have successfully exploited supply chains strategically to grow and gain significant market value.

Surprisingly, despite the evident observation that any firm belongs to at least one supply chain of production, the finance literature has neglected until recently the study of how customer-supplier strategic interactions may affect firms' *asset prices*. The empirical literature finds that, because customer and supplier firms share common fundamentals, the rewards that both offer to their respective shareholders are naturally highly correlated—whether in terms of dividend payments or stock price capitalisation. However, unlike the recent literature in law, there has not been a focus on trying to explore how firms' strategic behaviour in supply chains (such as that of Amazon or Google) plays a role in explaining asset prices.

In financial economics, when we refer to *asset prices*, we actually refer to two related concepts: the *market value* of the assets of a firm (i.e., its valuation), and its *expected returns*. The *market value* of a firm's assets is defined as the sum of the market value of its equity and debt holdings. The *expected return* of a firm reflects instead the compensation captured by a firm's investors in reward for their exposure to systematic risk while holding a stake in such firm.

Plausibly the most critical aspect of a firms' supply chain competitive strategy refers to the terms by which firms upstream supply inputs of production to firms downstream. The specificity of a firm's inputs of production, the degree of product market competition either upstream or downstream, or the technologies that both customers and suppliers apply to produce and assemble their products, to name a few, are critical aspects affecting the negotiations between customers and suppliers over the cost and delivery of inputs of production.

In a new paper, I thus tackle the question of how a firm's ability to negotiate input prices in supply chains, which I refer to as *vertical bargaining power*, affects its valuation and its expected returns. An important observation in my analysis, which is both theoretical and empirical, is that customers and suppliers naturally need each other in order to grow. Intuitively, if firms downstream expand their capacity to assist new markets, they will also demand more inputs of production, which in turn may give incentives to firms upstream to also grow and invest.

I present two main findings. First: consistent with canonical theories of bargaining in economics, I find that firms with greater *impatience to invest*—due to less diversified sales, smaller scale of production, or binding competitive threats in their product market—have less bargaining power while negotiating over input prices in the supply chain, and hence extract a lower fraction of joint supply-chain profits. Lower profits lead inevitably to lower firm value, and hence firms with lower bargaining power in supply chains are also less valuable. This finding is plausibly not surprising.

My second finding relates to how a firm's bargaining power in the supply chain affects its exposure to systematic risk. Many people would probably conjecture that higher bargaining power in supply chains makes a firm safer, as it allows the firm to obtain higher profit margins to buffer against adverse shocks. However, while I find that higher bargaining power indeed reduces a firm's exposure to risk when it comes to ensuring the continuity of its *current* operations, a more significant and predominant effect, associated with a firm's *future* operations, goes in the opposite direction, making firms with greater vertical bargaining power *riskier*. That is because firms with greater bargaining power extract a larger fraction of the expected value of all risky growth opportunities available in the supply chain. Consequently, they are more exposed to unexpected future fluctuations in the business cycle. It follows that firms with greater vertical bargaining power such as Amazon are not only more valuable, but also yield higher expected returns.

The paper concludes with empirical evidence in support of its core predictions and the study of model extensions, which are highly consistent with anecdotal evidence on star firms. In particular, I find that greater product market competition either upstream or downstream erodes more prominently the asset prices of those larger, more diversified firms in the economy with greater vertical bargaining power—irrespective of the supply chain segment that these leading firms belong to. Because leading firms extract most future profits in the economy through input prices, they are harmed by competitive threats even if such threats do not take place in their own segment of production. This prediction of the model could plausibly rationalise why star firms such as Amazon have integrated vertically on a massive scale in recent years.

While the study of vertical mergers is out of the scope of my paper, the results of my analysis do suggest that the joint study of strategic interactions in supply chains, vertical mergers, and asset prices is a promising avenue for future research. More generally, in light of the recent pandemic and the spectacular performance of firms such as Amazon, scholars in finance and economics should probably devote much more attention to our understanding of how supply chains affect strategic corporate decisions, asset prices, and—ultimately—value creation.

Notes:

- *This blog post is based on Customer-Supplier Interactions and Expected Returns.*
- *The post expresses the views of its author(s), not the position of LSE Business Review or the London School of Economics.*
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