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# **Component Procurement Under Unobservable Contracts**

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## **Abstract**

This paper studies the optimal component procurement structures of two competing OEMs that rely on a joint contract manufacturer to produce two partially substitutable products. The contract manufacturer, in turn, needs to procure its components from a supplier. We investigate whether the OEMs should delegate component procurement to the contract manufacturer or control it when contracts are unobservable. When the supplier has pricing power, we show that under procurement control, all supply chain members might benefit from contract unobservability if the downstream market competition is moderate, while under delegation, all supply chain members benefit from contract unobservability unless the market competition is extremely fierce. We also demonstrate that component procurement control for both OEMs arises as the equilibrium, in contrast to the observable case. When the supply market is competitive, we show that both OEMs prefer to delegate their component procurement to the contract manufacturer to benefit from the discount aggregation. While procurement control might also emerge as an equilibrium, we show that it is Pareto dominated by the delegation strategy. We develop a new theory to explain different procurement strategies adopted by OEMs to procure different types of components, uncovering the informational role of different procurement structures under unobservable contracts as it shapes the equilibrium procurement structure.

## **Keywords**

Component, Procurement, Unobservable, Contracts and OEMs