

# Auction Theory meets General Equilibrium Effects Solving a Vickrey Auction Embedded in an Exchange Economy

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## Resumo/Abstract:

To this day, the bulk of Auction Theory has been developed under the protective shroud of partial equilibrium analysis, favouring a game theoretical approach that is often detached from any theory of value. A more general setup is explored by nesting a non-cooperative Vickrey Auction (VA) (Vickrey, 1961) in an exchange economy to introduce a new indivisible good. There's reason for concern if predictions of traditional Auction Theory don't hold up against allowing for General Equilibrium effects. A solution is proposed under a simplified expectation formation rule and some discussion is provided for when this assumption is dropped. Moreover, we consider how this solution affects the remaining markets and how the correct (or incorrect) anticipation of these effects factor into the pure strategy solutions of the agents involved. Fortunately, the presented benchmark actually nests the traditional outcomes of the VA under the usual restrictive assumptions, generalising this solution to an economy with  $L \geq 1$  (divisible) non-auctioned goods and  $K = 1$  (indivisible) auctioned good, but, notably, the celebrated allocative efficiency of the VA is no longer guaranteed. The uses of this approach to lay out the incentives and trade-offs of choosing bids, however, extend beyond the chosen auction and can be used to tackle more complex situations/auctions.