

**Abstract:** We investigate optimal auction mechanisms when bidders base costly entry decisions on their valuations, and payments depend on both the bids and asset payoffs generated by the winning bidder. We show the optimal mechanism can feature asymmetry, where the seller sets differential reserve prices so that bidders enter with strictly positive but different (ex-ante) probabilities, even when bidders are ex-ante identical. The optimality of asymmetric mechanisms extends to cash auctions when there is sufficient valuation uncertainty relative to entry costs. When bidders pay with a fixed royalty rate plus cash, the optimal degree of asymmetry rises with the royalty rate.