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Conclusion

The various results obtained in this thesis suggest that auction design is not a matter of “one size fits all” (Klemperer, 2002). The relative performance of different auction policies will be context-dependent, and any type of auction can perform better or worse, from either the seller’s or the buyers’ viewpoint, than another in a different context. Thus, “art is nearly always auctioned off according to the English rules, whereas job contracts are normally awarded through sealed bids.” (Maskin and Riley, 2000). This “context dependency” also reminds us to pay more attention to the context details while modelling auctions. For example, the previous studies commonly compare different auctions under the same reserve price. This assumption may be valid, in general, only if the seller has no ability to commit to a reserve price higher than his own value prior to an auction.

In other situations, as shown in Chapter 2, endogenizing the seller’s choice of reserve prices could lead to drastically different conclusions. Chapter 2 has analyzed the effects of buyer and seller risk aversion in first and second-price auctions in the classic setting of symmetric and

independent private values. The seller's optimal reserve price has been shown to decrease in his own risk aversion, and more so in the first-price auction. The reserve price also decreases in the buyers' risk aversion in the first-price auction. Thus, greater risk aversion increases ex post efficiency in both auctions—especially that of the first-price auction. At the interim stage, the first-price auction is preferred by all buyer types in a lower interval, as well as by the seller.

Another example of “context dependency” concerns the use of premiums in auctions. In a premium auction, the seller pays a cash reward to a number of highest bidders according to some pre-specified rule. The premium is believed to encourage participation in the auction and to enhance competition among the bidders. However, as shown in Chapter 4, whether or not the premium will increase the seller's (or the buyers') expected utility critically depends on the risk preferences of the participants. Moreover, the possibility of bidder collusion, as studied in Chapter 3, can also make the premium auction more attractive to the seller than other standard auctions.

Collusion is often a primary concern for the seller in practice. If the bidders can manage to form a cartel and act like a single bidder, they can seriously harm the seller's revenue. Some auction experts (e.g., Klemperer, 2002) even believe that collusion and other competition policy related issues, like predation and entry deterrence, are more relevant for practical auction design than risk-aversion, affiliation of signals, or budget-constraints. To the least, as case law shows that collusion in auctions is not just a theoretical possibility (e.g., Krishna, 2002), and as competition law enforcement does not seem to sufficiently deter bidders from collusion in some circumstances, it makes more sense “to create an environment that discourages collusion in the first place than trying to prove unlawful behavior afterwards.” Motta (2004). Chapter 3 has demonstrated the desirability of premium auctions when it comes to fighting collusion.

This thesis has been focusing on the independent private values auctions only. It can be expected that some results obtained so far are extendable to

the informationally more general settings, whereas some are not. Indeed, for the cases where bidders have interdependent values and affiliated signals (Milgrom and Weber, 1982), how the bidders' risk preferences would affect the seller's choice of reserve prices remains an open issue that deserves serious studies in the future (e.g., Levin and Smith, 1996). In some other cases, the object for sale may carry substantial *ex post* risk (e.g., a business license, a mineral right, or a troubled bank). More research is needed as to understand how risk and risk attitudes of the bidders interact (e.g., Eso and White, 2004). Incorporating heterogeneity in bidders' risk preferences is another important area for future research.