D I S S E R T A T I O N P R O P O S A L

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"Incentives and Market Design"

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In the first chapter of my thesis, I extend the standard delegation model to a two-period setting where the bias of the agent is unknown. I formalize the intuition that discretion encourages learning in the sense that the principal is more likely to learn the bias of the agent by delegating more actions. Moreover we show that in the special case of threshold delegation, it is actually optimal for the principal to learn the bias of the agent in the first period. In that case, the optimal delegation set, as a function of belief, is larger in the first period than that in the second period. This implies that a dynamic interaction facilitates more discretion than a one-shot relation.

In the second chapter joint with Ali Polat, we study school admission with waitlists and exploding offers. We theorize a dynamic game with endogenous timing and asymmetric information, to rationalize why universities use waitlists and exploding offers and why different tiers of universities tend to send offers at different phases of the admission window. We have constructed a simple environment with three types, in which the more selective university waits for the less selective one to send out offers first. Since a higher quality student is more confident in getting a better offer later, this student is more likely to turn down an early offer and to remain in the market. Thus, the more selective school can utilize this filtering effect by letting the lesser one move first. Going onwards, we plan to work on the generality of the results and to understand what features of the information structure generate the above-mentioned dynamics.

In my last chapter, I work on the course allocation problem in universities motivated by Sonmez and Unver (2010), I examine the course bidding mechanism used by the University of Michigan Business School (UMBS) and showed that the efficiency loss emphasized in Sonmez and Unver (2010) can be attributed to strategic errors and false beliefs instead of the mechanism itself. Moreover, I establish equivalence between UMBS and two celebrated matching mechanisms: Top Trading Cycle (TTC) and a variation of Serial Dictatorship (SD). I plan to utilize the equivalence relationship to better understand the equivalence properties of UMBS since its equilibria are hard to analyze directly.