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Revenue maximization via service differentiation in a queuing system (joint with Costis Maglaras and Assaf Zeevi)

Abstract: We study a revenue maximization problem for a firm that offers a service that is subject to congestion to a market of users with different valuations and delay sensitivities. The system is modeled as a multi-server queue. Using a deterministic relaxation, justified via a large scale asymptotic, we highlight the structure of the optimal solution: When and how does the firm offer differentiated services? How does the system capacity impact these decisions and what operating regimes do they induce?