INDRAPRASTHA INSTITUTE *of*
INFORMATION TECHNOLOGY **DELHI**

Optimal Monopoly Mechanisms with Demand Uncertainty

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Bio: Jeevant Rampal is an Assistant Professor in the economics area of the Indian Institute of Management Ahmedabad. His primary research areas are game theory, behavioral/experimental economics, and mechanism design. Jeevant has worked on developing a theory to understand behavior of players who lack foresight, and testing the novel implications of this theory experimentally. Within behavioral/experimental economics, he has also worked on issues related to introducing bio-fortified high-iron pearl millet to iron deficient population in rural Maharashtra, two stage contests among ideologically divided groups, biases originating from affirmative action, sensitivity of altruism to moral wiggle-room, and several other ongoing projects. Within mechanism design, he has worked on optimal monopoly mechanisms under demand uncertainty, with an ongoing project analyzing firms that compete by choosing potentially different mechanisms. Jeevant holds a Ph.D. in Economics from Ohio State University.

Abstract: This paper analyzes a monopoly firm's profit maximizing mechanism in the following context. There is a continuum of consumers with a unit demand for a good. The distribution of the consumers' valuations is given by one of two possible demand distributions/states: high demand or low demand. The consumers are uncertain about the demand state, and they update their beliefs after observing their own valuation for the good. The firm is uncertain about the demand state, but infers the demand state when the consumers report their valuations. The firm's problem is to maximize profits by choosing an optimal mechanism among the class of anonymous, deterministic, direct revelation mechanisms that satisfy interim incentive compatibility and ex-post individual rationality. We show that, under certain sufficient conditions, the firm's optimal mechanism is to set the monopoly price in each demand state. Under these conditions, Segal's (2003) optimal ex post mechanism is robust to relaxing ex post incentive compatibility to interim incentive compatibility. We also provide a counterexample when these conditions are not satisfied.

Date: **28 March 2019, Thursday**
Time: **4:00 pm – 5:30 pm**
Venue: **A 106, R & D Block**