

Essays on Costly Information Acquisition in Economics

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Abstract

In the first chapter, we solve the two-armed bandit problem when decision-makers are risk-averse. We show – counterintuitively – that a more risk-averse decision-maker might be more willing to take risky actions. This finding relates to the fact that pulling the risky arm in bandit models produces information on the environment – thereby reducing the risk that a decision-maker will face in the future. Thus, we suggest there is reason for caution when inferring risk preferences from observed actions: in a bandit setup, observing a greater appetite for risky actions can be indicative of more risk aversion, not less.

In the second chapter, we characterize when it is rational to acquire information leading to belief polarization, in situations that involve a choice between the implementation of a new policy with an uncertain outcome and the preservation of the status quo. Specifically, we model the agent to be rationally inattentive: any information about the new policy can be acquired before the choice is made, but doing so is costly. We show how the choice of information, and thus the belief formation, depends on the agent-specific value of the status quo. Importantly, beliefs can then, in expectations, update away from the realized truth. This is due to endogenous information acquisition because the agent chooses only to learn whether the uncertain payoff is higher or lower than the payoff of the status quo. Consequently, two agents with the same prior beliefs about a new policy might become polarized if they differ in the valuations of the status quo. We show that the lower cost of information leads to more severe polarization. We conduct a novel experiment to test and confirm our predicted information acquisition strategy and its dependence on the value of the status quo. In our setting with multiple states, we also replicate the well-known preference for certainty and verify the occurrence of belief polarization.

In the third chapter, we present a likelihood evaluation of a DSGE model with price-setting firms that select properties of their signals subject to a limited attention constraint. We compare the performance of a rational inattention DSGE model (RIM), with an imperfect common knowledge model (ICKM) and a model with price stickiness à la Calvo. We demonstrate that the rational inattention model matches the data better than the Calvo model and reproduces the persistence more easily than the ICKM model. This result occurs because (i) RI firms pay attention to a higher number of lags of fundamentals than is assumed in the ICKM models, and (ii) the full information method selects the different degree of strategic complementarity in various models.