Liability Design with Information Acquisition

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An agent must decide whether to launch a risky product. The agent has private information about the riskiness of the product and can acquire information about the product's riskiness before making the launch decision. If the product is launched, it may harm a third party and trigger an *intervention* by the principal. The principal must decide how much to make the agent liable when damage occurs, subject to a maximal liability ceiling. The principal does not contract with the agent ex ante, but can commits ex ante to a liability rule with the objective to maximize expected social welfare.

If liability were unlimited, making the agent liable for all damage would perfectly align the incentives of the agent with social welfare. Bounded liability creates two issues: (i) the agent can take a socially inefficient action, keeping the information level fixed, (ii) the agent may acquire less information than is socially optimal.

To model information acquisition, we adopt a commonly-used Brownian model, in which the agent observed a Brownian process with a state-dependent drift. The agent incurs a constant running cost from observing this process.

The agent makes two decisions: (i) when to stop acquiring information and (ii) which action to take.

We assume (as a first step) that in case of an intervention, the principal is able to observe the final state of the learning process when the agent has stopped acquiring information.

We show the following results:

THEOREM 1 *The optimal policy is stationary and characterized by two stopping thresholds: one in which the agent "adopts" (stops acquiring information and launches the product) and one in which the agent "abandons" (stops acquiring information and does not launch the product). Pessimistic types acquire more information (adoption requires more positive evidence and abandonment requires more negative evidence). Moreover, the actions are identifiable (in the sense of our other project), so there is no gain from pre-outcome communication.*