

IC: Introduction

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Start with Experimental Exam

- ▶ Courtesy of Anderson-Holt
- ▶ Guess which of two card decks?
 - ▶ A(frica): one has 24 red and 28 black cards
 - ▶ B(eijing): one has 28 red and 24 black cards
- ▶ 100 Swedish Kronor (\$9)
 - ▶ accept written and signed IOUs
 - ▶ hardship cases: do not participate

What Ingredients Did I Use?

How did I set up the experiment?

What are the model assumptions?

Assumption I

Two Possible Value States, A or B

An interesting decision to be made:

- ▶ Breaks down if
 - ▶ decision is uninteresting (always choose A, because A gives you \$1 million and B kills you)

Assumption II

Imperfect Private Information

- ▶ IID draws, same information quality
- ▶ Agents are not perfectly informed / uninformed,
 - ▶ through private (and public) information.
 - ▶ private signal is perfect (about true state)
 - ▶ public signal is perfect (about true state)
 - ▶ here, binary. ($p(A|b) = p(B|r) = 28/52$)

Assumption III

Communication by Action, Not Too “Nuanced”:

- ▶ Usually via discreteness in action:
 - ▶ often just “choose A or B;”
- ▶ Breaks down if
 - ▶ private signals always modulate into different actions, which allows later perfect inversion of private information.
 - ▶ credible conversation and coordination = signal sharing

Assumption IV

Agents' One-Time *Identical* Decisions and Values

- ▶ Read Shakespeare or Goethe. Eat herring or mackarel. Left cave or right cave. Watch A or B. Wear black or yellow. Pants or Skirts?
- ▶ Breaks down if
 - ▶ decision optimality changes over time
 - ▶ decision optimality changes with others' actions
 - ▶ (moving-price mechanism often does this)
 - ▶ lion is no longer hungry
 - ▶ decision depends on individual

Assumption VI

Sequential Actions and Serial Observation

- ▶ Simplest version: a queue.
 - ▶ who goes first, though?
- ▶ Breaks down if
 - ▶ everyone acts at the same time.
 - ▶ Note: we can allow bunches of people to act simultaneously.

Informational Cascade (IC) Key Result

Rapidly, every agent *forever* will act the same;

... and possibly incorrectly!

Robustness

Not result for small parameter region (with contortions to get a counterintuitive result).

Info cascades assumptions are modest,

and pretty easy to explain to grandparents.

- ▶ ...or to my 15-year old in his high school!
- ▶ (do not expect such simple insights in your first draft!)

Done?

Yes and no.

1. More Formality

- ▶ We will make this just a little more formal,
 - ▶ ...but not by a whole much.
 - ▶ Formality is a powerful tool, like a hammer;
 - ▶ ...but the basic informational cascade is so powerful, you really don't need a huge hammer.

2. What is Necessary?

- ▶ We will talk about what assumptions can be relaxed further and what assumptions we absolutely need for interesting informational conformity.

3. Talk about Applications?

- ▶ We will talk about some applications
 - ▶ integration with other models?
 - ▶ past, current, and future empirical work.
 - ▶ PS: Are we behaviorally programmed? Can we manipulate through knowledge of biological programming?

4. Why (historically) important?

- ▶ “Lemmings”?!
 - ▶ Wide conformity was a mystery,
 - ▶ Herding on wrong choices was often incorrectly assumed to be irrational / stupid.
 - ▶ bad enough for economics;
 - ▶ really bad for biological evolution!
 - ▶ many related mysteries also in anthropology; poli sci; sociology; etc.