Discussion of Agency Problems

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Common Thread: learning

Johannes: learn from your own experiments as well as others (collaborators, peers, recommender)

Igal: P learns about A (insuree risk, worker productivity...); main focus on A learning symmetrically.

One-agent two-arm bandit model with learning

can only act on one arm at a time, S(afe) or R(isky)
$\omega = G, B$ is uncertain, the only way to learn is to choose R
if $\omega = G$, perhaps ("news") a positive payoff arrives; otherwise nothing
if $\omega = B$, perhaps a negative payoff arrives; otherwise nothing.
News is *conclusive*: reveals ω fully.
The state variable is $p_t = \Pr_t(\omega = G)$; optimal strategy=choose R iff p_t is large enough.
(special case of Gittings index theorem.)

The News Rap

with good news no news is bad news
with bad news no news is good news

and all news is conclusive news.

and transparent terminology helps!

Add Strategic Motives

Several players $\rightarrow$ many possible strategic interactions:

1. Payoffs could be interdependent
   1. the first player to get news wins the patent race
   2. or they share the value of the breakthrough (Bonatti–Hörner "limited collaboration")
2. and/or each player can observe the others' R, S choices (actions)
3. and/or each player can observe whether others know ω (outcomes.)

Main Lessons

independent payoffs, observable actions and outcomes:

- I should experiment to increase their payoff to experimenting (encouragement effect)
- I should refrain from experimenting and wait to learn from them (free-riding).

or the obvious extremes if I am very pessimistic or very optimistic.

With collaboration and observable outcomes, no encouragement effect: others do not see my experimenting.

Completing the Picture

what happens with the patent model?
Free-riding still very valuable, discouraging others too?
"winner takes all" may push players into hiding their progress (or not)
Learning about learning: hierarchical Bayes, priors p on $(\tilde{\lambda}_G, \tilde{\lambda}_B)$, or more generally, priors (p_i) on $(\tilde{\lambda}^j_G, \tilde{\lambda}^j_B)_j$.

Playing on Differences

Application to R&D, or a new product line, or adoption of/investment into a new technology:
different priors matter, perhaps more than different preferences.
e.g. relying on early adopters as guinea pigs
with early adopters different from others (unlike Che–Hörner):
more optimistic, or intrinsic value of experimenting.

Dynamics of Selection

Emphasis on "exogenous" reclassification risk and unilateral commitment from insurees:

- assuming away barriers to switching insurers (cf employer provided health insurance),
- consumers who lapse are better risks than those who do not;
- the contractual second-best is front-loading of premia ("highballing");
- but this is limited by the liquidity of insurees.

Strong empirical support for these predictions.

HHW 2015a and 2015b: it matters!

"Community rating": ACA (alias Obamacare) bans varying premiums based on individual health status.
Removes reclassification risk but creates adverse selection, with higher coverage plans unraveling
unintended consequence:
benefits individuals with rising incomes (who also tend to have higher lifetime income.)

Alternative Setups

Reclassification risk could be "endogenous": insurers learn about the persistent component of insuree risk.
Dionne-Doherty 1994: we get highballing too, and lower-persistent-risk insurees choose more experience-rated contracts
(not available with ACA!)

Exclusive and Non-exclusive Insurance

A **hugely important** distinction: non-exclusivity severely constrains price discrimination.
see work by my smarter sibling et al:
Attar-Mariotti-Salanié (*Eca* 2011, *TE* 2014).

exclusive: automobile insurance
non-exclusive: life insurance, annuities

health care? nonexclusive within regulatory limits (often to discourage moral hazard)
sharing of information across insurers (and/or regulator) becomes crucial.

Imperfect Competition

> *[...] perfect competition does not approximate insurance markets that well. Fixed costs, product differentiation, price stickiness, switching costs, and cross-subsidization are common; oligopoly is probably the rule rather than the exception.*
> *(Chiappori-Salanié* Handbook of Insurance 2015*)*

E.g switching costs (Handel 2013) would attenuate dynamic selection;

and cross-subsidies may allow for higher coverage contracts in equilibrium (?).

Sources of Insurance

comes from various sources:
self-precaution, self-prevention, social networks, private markets, government
even in a static framework (e.g. Chetty-Saez 2010), if factor supply responds to taxation then private and public insurance have externalities

how do we deal with dynamic selection *across* all these?