

Decision Markets

Reinventing the Policy-Advice Industry

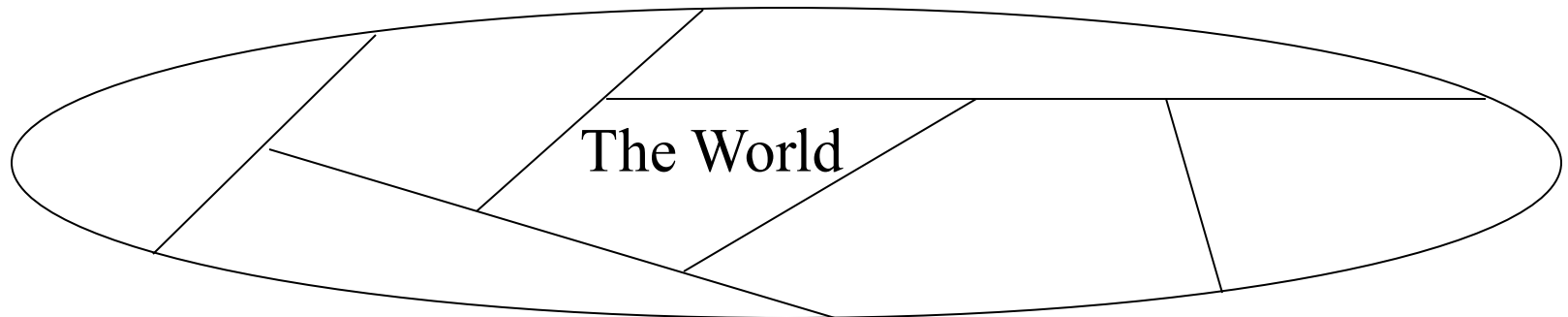
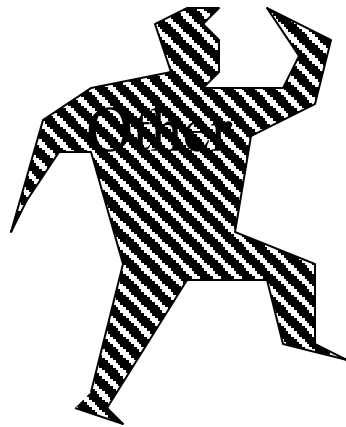
Robin Hanson

GMU PC Brown Bag 10/12/99

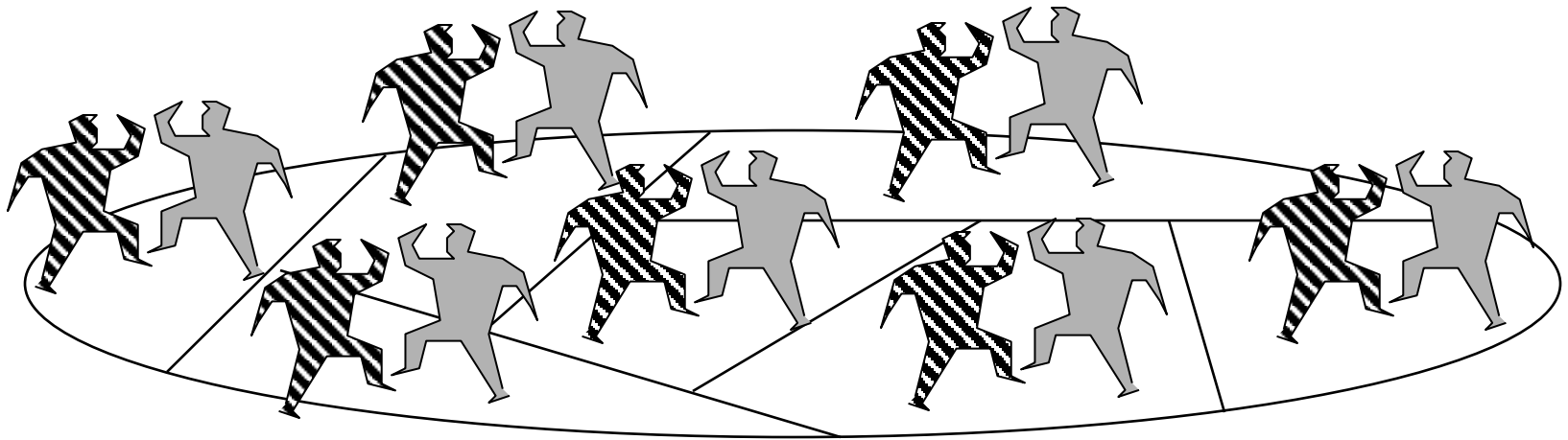
Outline

- Big-picture economics -- lost and found?
- Policy-advice industry -- failures today.
- Speculative markets aggregate info well.
- Have markets estimate decision-contingent outcomes? E.g., $E(\text{crime} \mid \text{gun control})$
- What blocks? Laws, culture.

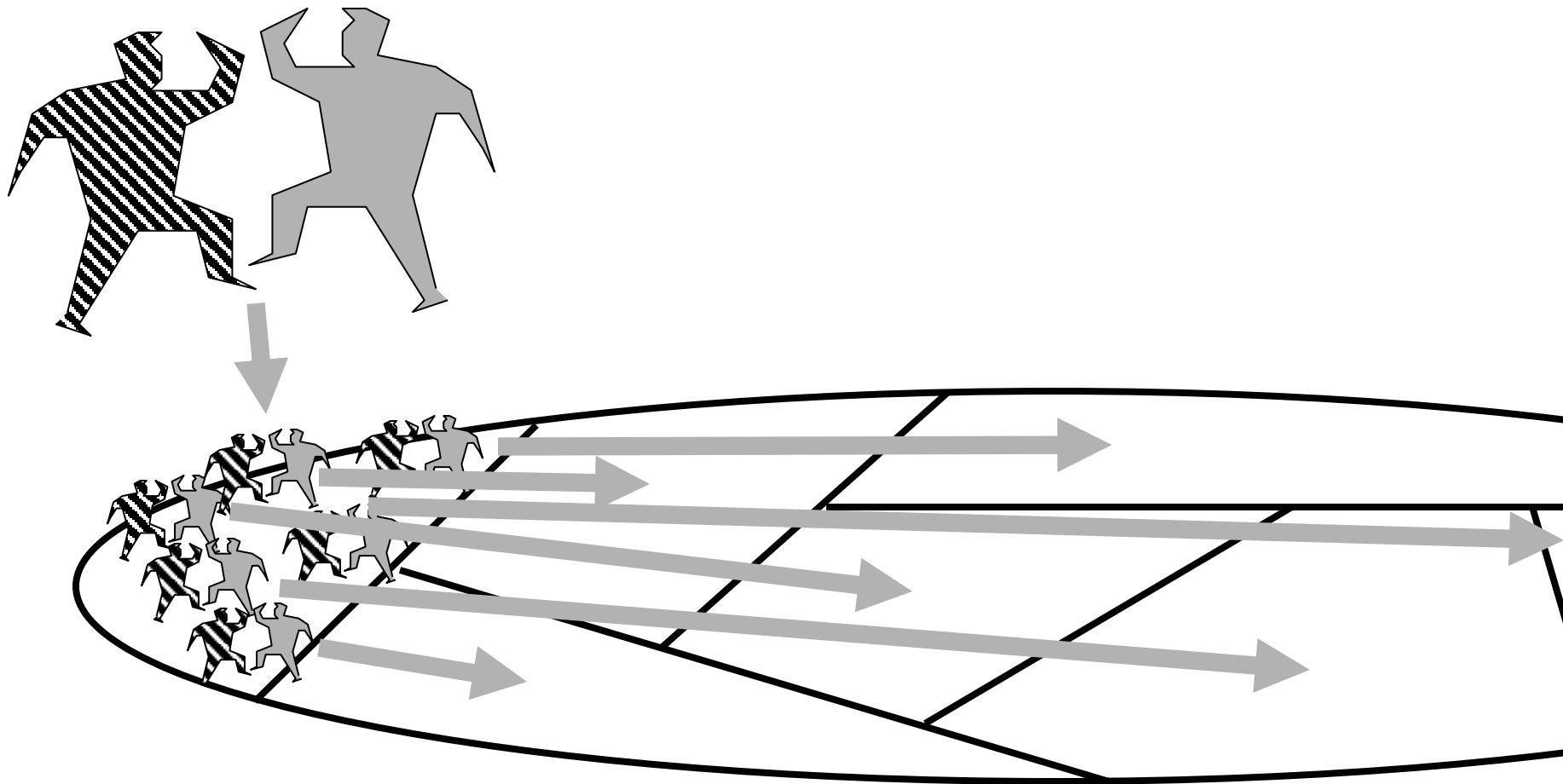
The Mythical Battle



Today's Battle



But That's Really ...



Policy Advice Industry Today

- **Demand:** seek consequences of choices
- **Supply:** media, academia, advocates, ...
- Crucial industry -- *is rationale for free speech*
- **Supporters:** “policy/ave.-opinion informed”
[*Rational Public* Page & Shapiro ‘92, *Myth of Demo...* Wittman’95]
- **Critics:**
 - Ignorant: “look at all these stupid choices”
 - Irrational: no random walk, agree to disagree

We Agree to Disagree

But on facts, this can't be due to differing info!

- Direction of others' opinion tells direction of their info. (As exchange opinions, can't predict their new opinion, relative to yours)
- Shown for: Bayesians, possibility-set agents, Turing machines, Bayesian wannabes

Can only be insincerity, priors, "computation"

E.g. " π is $22/7$ " " π is 3.14" (π state-independent)

Why Failures? (Speculation)

- **Payoffs Weak**
- **Institutions** -- Mostly *cheap talk*
 - Mercenaries & ideologues drown out the rest
- **Individual “Irrationality”**
 - Beliefs like clothes -- in mild weather, fashion beats function
 - See self as better than average, to fool others

Goal is Information Aggregation

Theory says IA is easier when:

- Claims verifiable (even possibly, eventually)
- Each info known to several people
- More possible (visible) actions, e.g., repeat
- Action payoffs correlated well with info
 - e.g., cheap talk, burning \$, costly signals, bets

Speculative Markets

Work IA Wonders

- It's hard to find info not reflected in prices
- O.J. futures beat govt. forecasts [R. Roll *AER* '84]
- Election markets beat polls [Forsythe et.al. *AER* '92]
 - most traders biased, but not active traders
- Markets at horse races tap non-IQ smarts
[Ceci & Liker, *J. Exper. Psy.* '86]
- In lab, reveal info if traders experienced & know net payoffs [Forsythe & Lundholm, *Econometrica* '90]

Decision Markets Give $E(O|C)$

Choices

- Population control
- Who elected president
- Health care regulation
- School vouchers

- Who is CEO
- Which ad agency

Outcomes

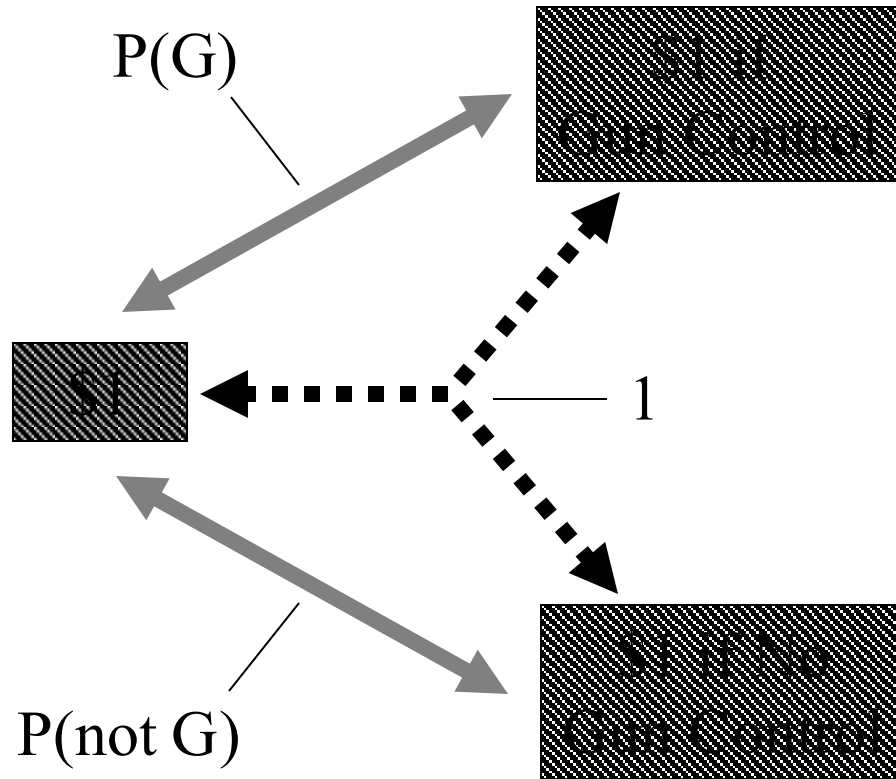
- GDP per capita
- War deaths
- Lifespan
- School test scores

- Stock price
- Product sales

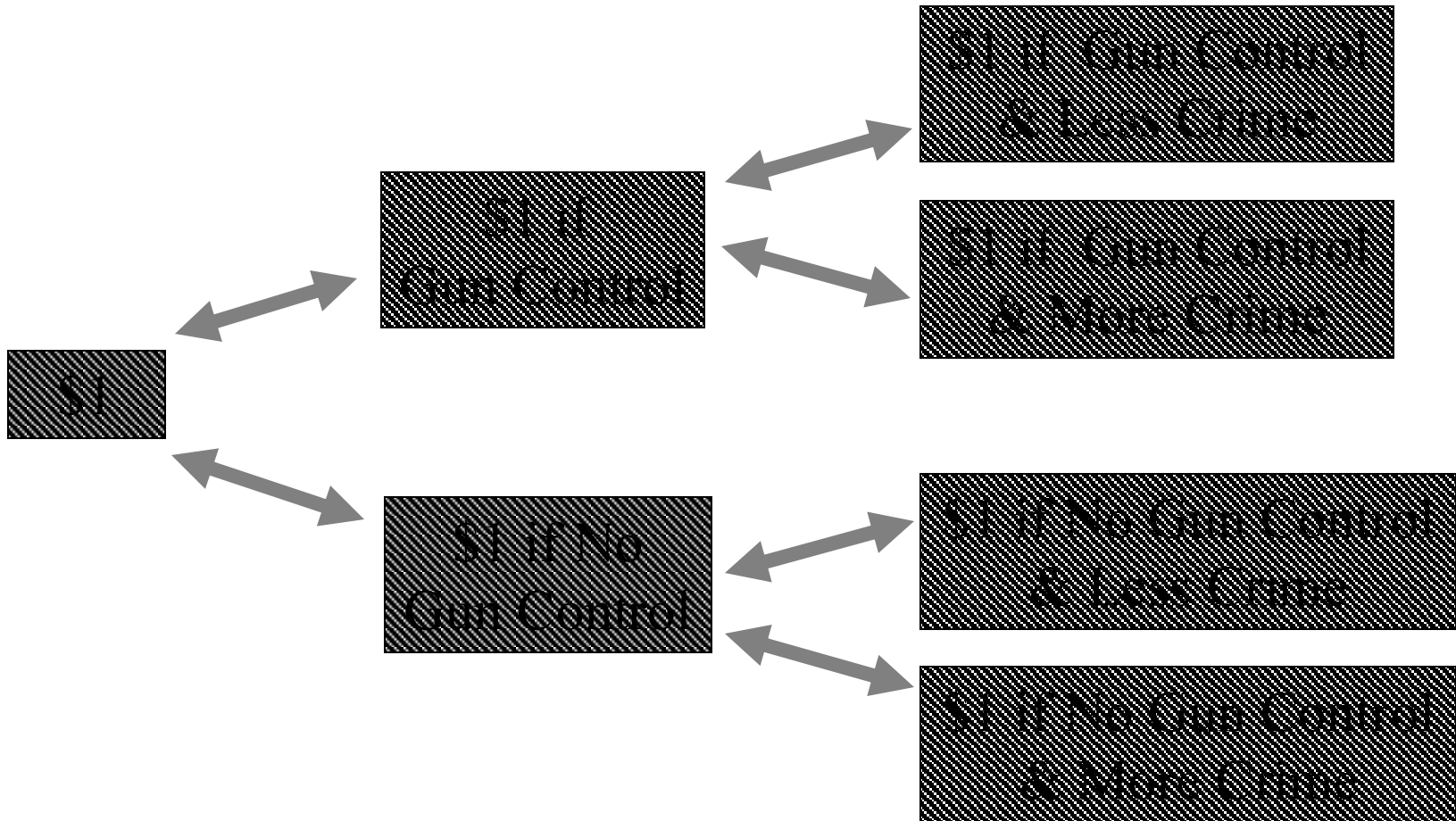
The Vision

- Interpret prices as decision consequences.
- Public defers to decision market estimates.
- Politicians forced to also partly defer.
- Bias-attempts pays for speculators.
- Ignorant stay out -- self-aware or go broke
- “Good” advisors listened to. (Economists?)
- Less information-based democratic failure.

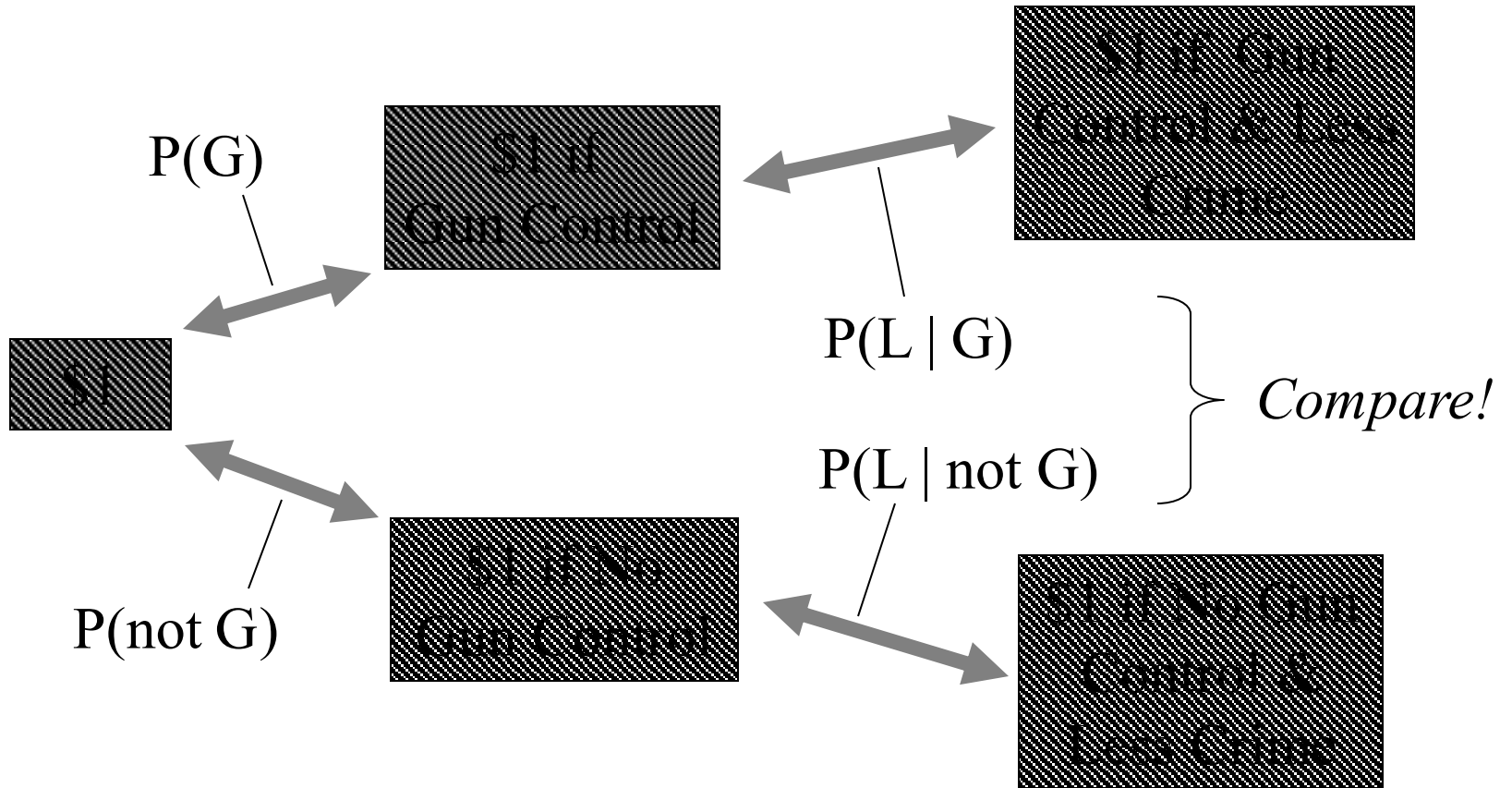
Predicting Gun Control



More Gun Control Assets



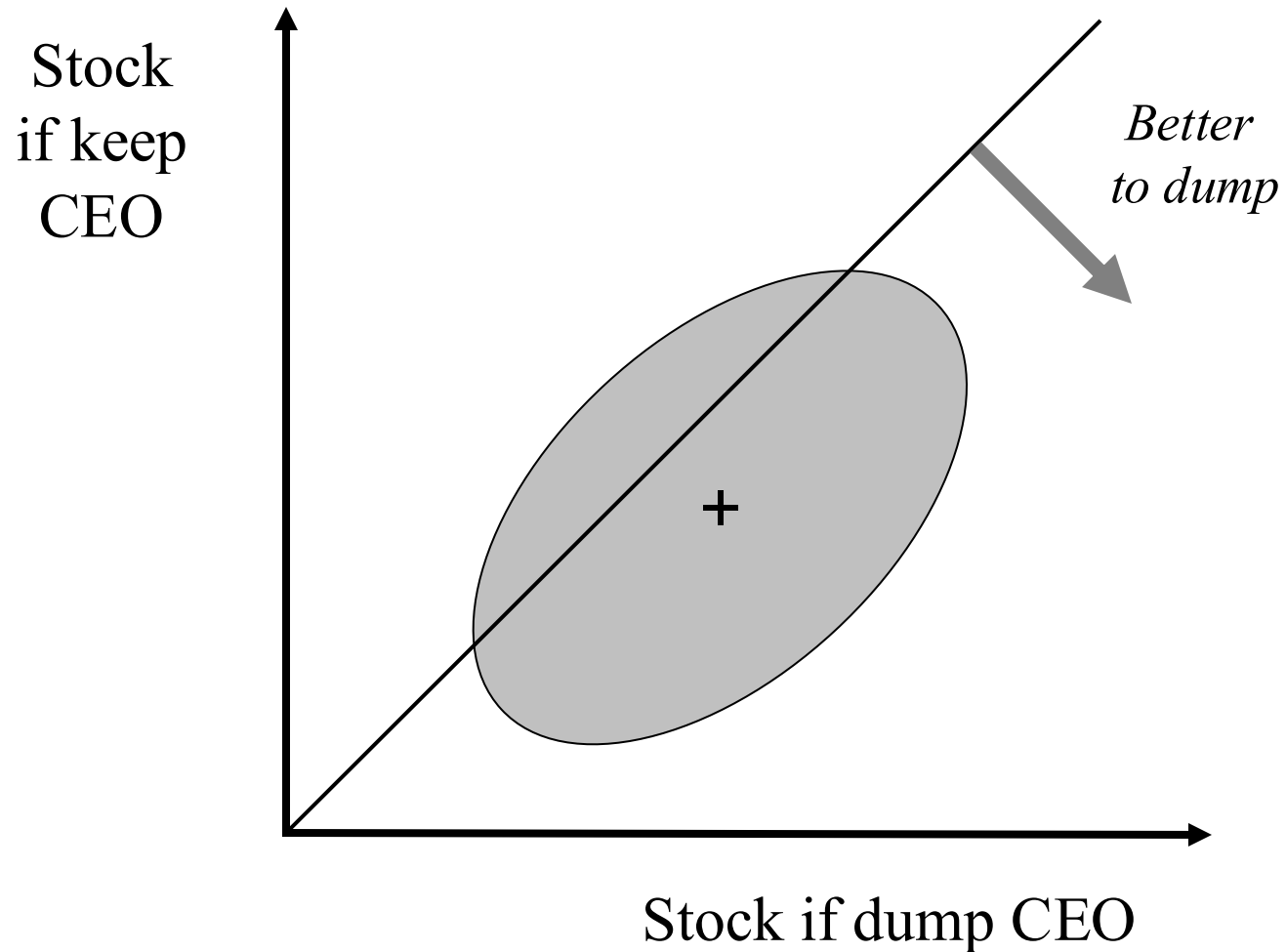
Gun Control Decision Markets



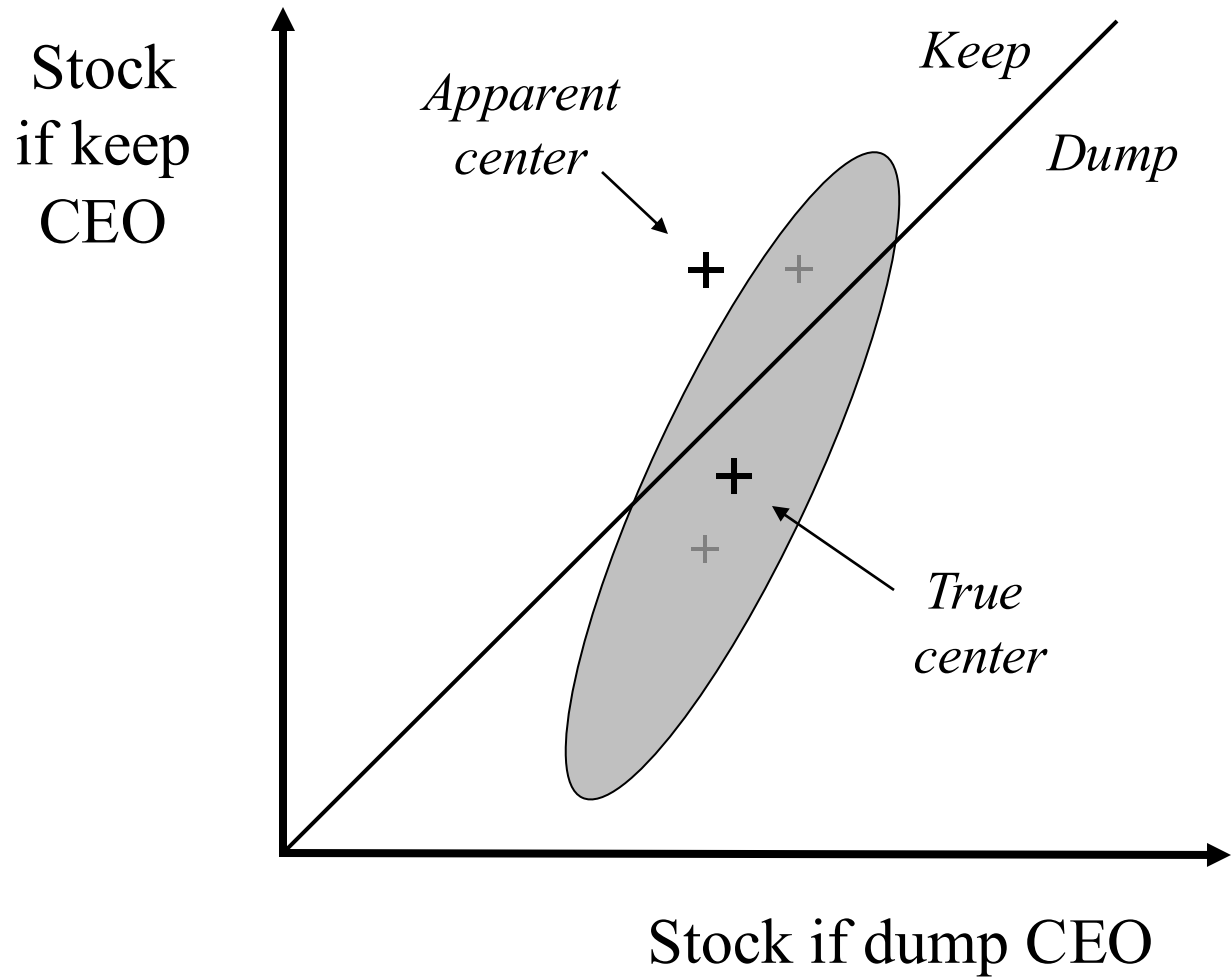
Details

- Improvements
 - Subsidies (beyond hedgers, addicts, braggarts)
 - Audits to lower average judging costs
- Cautions
 - Best when good outcome/choice measures
 - Moral hazard - need anonymity limits?
 - May need to correct for risk-premia
 - Trouble if decision-time uncertainty

Distributions Over Consequences



Trouble: More-Informed Decider



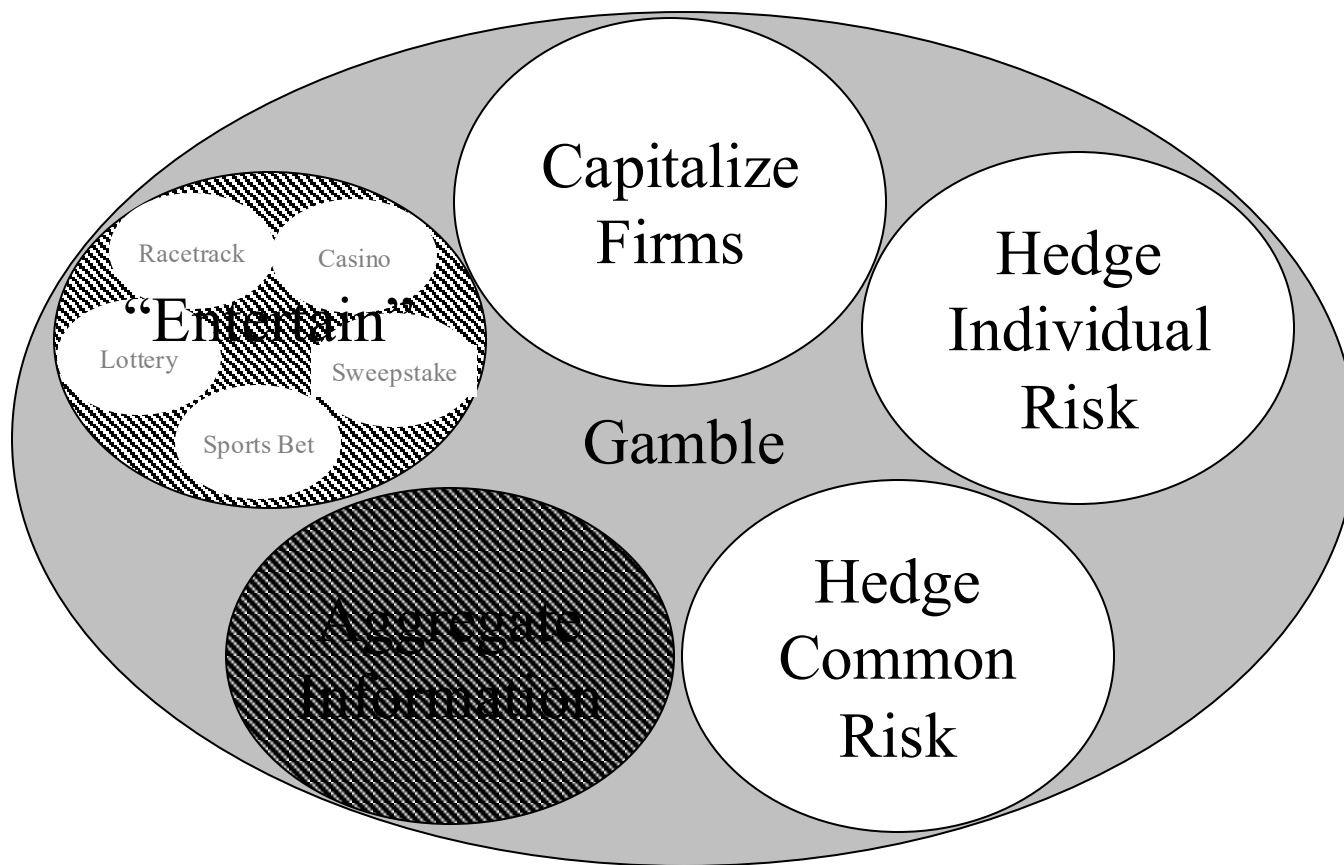
What's Stopping It?

- It's *not* because markets fail to exist
- It's illegal!
 - No regulatory regime carved out yet
 - Free speech only for cheap talk!
- Need to evolve market-style debate culture
 - Public defers to market price as best estimate
 - Should come with experience, studies of

Recent IA Market Prototypes

- Iowa Electronic Markets - on elections
- Play-\$ web games show small markets work
 - HSX: 100K players, ~500 movies, stars
 - FX: 2K players, 200+ claims, 80+ sci/tech
 - New “Capitol Markets” on regulatory decisions
- Internal company markets on sales, delivery
 - at HP, Siemens, Xanadu
 - Limit participation & stakes

Regulation of Speculation



Media Defer to Markets

“AT&T Will Split Into 3 Companies

Why ...? Because companies that try to do too many things at once get in their own way, AT&T Chairman Robert E. Allen suggested Wednesday. ... Telecommunications analysts and consultants agreed, and so did investors, as they boosted AT&T stock 10.6%.”

Los Angeles Times headline Sept. 21, 1995

Debate Culture, Market Style

- Media defer to price, vs. opposing quotes
- Disagreement \Rightarrow “Put \$ where mouth is”
- Price focuses talk: “Why did price change?”
- Arbitrageurs kill biases, inconsistencies
- Non-credentialed, masses can influence
- Uninformed self-select out, or selected out

*“One Ring to rule them all
One Ring to find them,
One Ring to bring them all
And in the darkness bind them”*

J.R.R. Tolkein

