Market-Based Decision-Advice On Military Instability

Robin Hanson
George Mason University
Consultant, Net Exchange
Why Surprise?
Failures to Aggregate Info

• *Sources* - Don’t know datum
• *Analysis* - Don’t use what know
  – Bad statistics? Bad model? Fool?
• *Networks* - Don’t think to say what know
• *Incentives* - Don’t choose to say what know
• *Evaluation* - Don’t believe what told
Speculative Markets Do Great

- Hard to predict prices! So include easy info
  - 100+ years of research on stocks, bets, etc.
  - If find else (on small scale), effect soon gone
- Also see in 20+ years of lab experiments
- O.J. futures beat govt. forecasts [Roll AER ‘84]
Markets Made To Aggregate Info

• Not just side-effect of hedge risk, entertain
• *Election Markets*
• *Corporate Markets*
  – Beat official HP sales forecast 15.5/16  [Plott *SEJ* ‘00]
• *Web Games* - HSX, FX  [Pennock *Science* 9Feb’01]
  – Beat WSJ Oscar poll, but not Box Office Mojo
How Do They Do It?

“Put Where Is”

- **Incentives** – $ to say what know, learn more
- **Anonymity** – avoids social pressures on talk
- **Self-select** – stay away if know don’t know
  - traders biased, but most active less so  
    [AER ‘92]
  - Horse race bets tap non-IQ smarts  
    [J Exp Psy ‘86]
- **Loss-select** – lose $ if wrongly think know
Apply To Military Instability?

• DARPA funding market estimate field test
  – market vs. status-quo-like defense estimates
  – enough data to compare in two years

• Huge potential predicting coups, wars, etc.?  
  – Very high value in a few estimates
    Especially decision-contingent estimates
  – Suspect estimates not now reflect all known
    • Cheap talk incentives, neglected gold out there
Imagine ...

- 50 - 500 diverse traders
  - Intelligence experts – as many as possible!
  - Academics – regression wonks, nation experts
  - Media, Wall St. – nation experts
- $10 - $1000 individual stakes
- 50 nations x 4 event types x ??
  “War involving nation Z kills > 1000 in 2003”
  “Coup in nation Q in 2004.”
Design Issues

- **Secrecy** – Risk share output, if hide inputs?
- **Moral hazard** – Enough to limit stakes?
- **Lobbying** – Robust to modest level?
- **Regulation** – DOD shield, vary color of $?
- **Participation** – $, bragging rights enough?
- **Bozos** – Two-tiered trial?
- **Dimensionality** – NEX team expert here
Predicting a Coup

$P(C)$

$\$1$ if Coup$

$\$1$ if No Coup$

$P(not \ C)$

$P(C)$
Coup & Troop Move Assets

$1 if Coup & Move Troops

$1 if Move Troops

$1 if Not Move Troops

$1 if Coup & Not Move Troops

$1 if No Coup & Move Troops

$1 if No Coup & Not Move Troops

$1 if Coup & Not Move Troops
Troop Move Decision Markets

$1 if Coup & Move Troops

$1 if Not Move Troops

P(M)

P(not M)

$1

P(C | M)

P(C | not M)

$1 if Coup & Move Troops

Compare!

$1 if Coup & Not Move Troops

$1 if Not Move Troops

$1 if Move Troops
In Summary

• Speculative markets aggregate info well
• Might improve military instability estimates
• Might estimate decision consequences
• We now grappling with design – help!
• We will need intelligence experts to join
  – Come prove your ability on level playing field
  – You decide what claims you expert on
Distributions Over Consequences

Better to dump CEO if keep CEO

Stock if keep CEO

Stock if dump CEO

Better to dump
Trouble: More-Informed Decider

Stock if keep CEO

Apparent center

Keep

Dump

Stock if dump CEO

True center