

Markets to Keep the Peace

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with Net Exchange, for DARPA

DARPA said “Jump”

- DARPA funds research on high risk, high return techs ripe for focused effort
- Electronic Market-Based Decision Support ‘01 SBIR
 - Phase I: “design one or more markets to predict events in a limited domain of interest to the DoD, ” select domain, identify participants, their incentives
 - Phase II: “Evaluate the accuracy of market predictions against predictions of the same events by other institutions ... develop more general techniques ... prepare to establish markets in broader contexts”

We Wondered “How High?”

- Should we ask small or big questions?
- Small questions
 - Usually first try new things on small scale
 - Avoid threaten status quo, org/legal rules
 - But thin markets can fail, hedging markets start big
 - Risk fixed costs more than added info value
- Big questions
 - Existing intelligence techniques fail most here?
 - Prediction analysis get harder, but info markets easier

Shooting Very High

- What do we most want to know?
“Would moving U.S. troops out of Saudi Arabia raise or lower the chance of a revolution there, or of terrorist deaths in the U.S.?”
- Estimate outcomes given policy

$$\boxed{\$1 \text{ if } A} \leftrightarrow p(A) \boxed{\$1}$$

$$\boxed{\$1 \text{ if } A\&B} \leftrightarrow p(A|B) \boxed{\$1 \text{ if } B}$$

Imagine ...

- Markets on ~10 vars per nation per quarter
 - Outcome: regime type, conflict level, deaths
 - US action: peacekeeping, show force, aid, ...
 - Intermediate: GDP, corruption, missile tech
- 2-4 assets/var, ~20 nations near Mideast
- Always estimate any var given any other
- Participate: DoD, academia, media, public?

Challenges

- Laws, Org rules
 - DoD cover, backing
- Overcome participation inertia
- Compare to existing institutions
- Software, user interface
- Combo markets can be thin
 - combo bids, market makers