Comments on Forecasting Conflict

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Are we doing anything we weren't doing before?

YES!

PITF:

Reliable baseline models with AUC invariably in the 0.80 to $0.85~\mathrm{range}$

Good Judgment Project:

"Superforecasters" with accuracy comparable to quantitative models, in contrast to the modal "dart-throwing chimp." Ensemble methods such as prediction markets may also work



Contrast with academic mode of research

Academic:

- ► Arbitrarily shuffling covariance to produce a pleasing pattern of significant in-sample p-values which might be published in three to five years after all of the interesting results have been eliminated in the review process.
- ▶ c.f. Kristof, N.

Forecasting:

- ▶ Real-time, policy-relevant prediction
- ► Note that the evaluation metrics such as AUC, precision/recall etc are completely different: this is new.

Point where academics are making major contributions

Theory, theory, theory

- Consistently, analysts and decision makers observe that they can only focus on short-term issues
- ► Theories tend to have a very long baseline, e.g. Thucydides, ibn-Khaldun, Machiavelli, Kant
- ▶ Academics have accumulated a *lot* of theory

Basic science

- Development of quantitative methods, now usually as open source software
- Some "brush-clearing" of models, though the long publication lags are an issue
- Open collaboration environment

What could possibly go wrong?



Do not meddle in the affairs of wizards, for they are subtle and quick to anger. J.R.R. Tolkein, *Lord of the Rings*

With great power comes great responsibility. Stan Lee, Spiderman Very extensive forecasting efforts are going on constantly in the qualitative realm

Remember Israel's attack on Iranian nuclear facilities in the summer of 2012 that countless pundits predicted because it was absolutely inevitable? President Romney remembers it just as well.

The difference that is scary is that we may be entering a realm where these forecasts are actually accurate rather than the essentially random "dart-throwing chimp" predictions.

Multiple communities are involved in this enterprise

- ► Governments
- ► NGOs
 - ▶ European conflict studies network, particularly PRIO and Uppsala UCDP
 - Additional NGOs may become involved as these models become known: Ulfelder's work with the Holocaust Memorial Museum
- Consultants
 - ▶ These serve as "knowledge mules" to diffuse information between projects: precisely the same phenomenon occurred in Silicon Valley
- Academics
 - Actually the only group who are not already engaged in research with potential policy relevance

Will our models begin to fail if they succeed:

Scenario 1: President Romney

- ► This will have no effect because no one will ever pay attention to it
- ▶ Then why are we doing it?

Scenario 2: El Farol problem: Santa Fe Institute

- Model: what happens if people continually update their models to try to out-guess other models?
- ► This is non-trivial and occurs all of the time with competing automated trading models
- Result: Mixed strategies with random bounded behavior, probably not unlike the status quo
- ► Reference:

http://en.wikipedia.org/wiki/El_Farol_Bar_problem

Scenario 3: Our world

- ▶ Lots of qualitative early warning is going on anyway
- ▶ Many of the factors cannot be adjusted in the short term by most of the actors, e.g. all of the structural ones
- ► As people in Ukraine, CAR and South Sudan will remind you, the international community is not exactly stunningly responsive at present
- ► At least some of the actors can benefit from early warning, either to intervene or get out of the way
- ▶ That said, we need to be aware of the possible impacts as these models are taken more seriously

Thank you

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Slides: textthttp://eventdata.parusanalytics.com/presentations.html