Expert political judgment

“... many pundits were hard-pressed to do better than chance, were overconfident, and were reluctant to change their minds in response to new evidence.”

Source: www.edge.org/conversation/how-to-win-at-forecasting.
Superforecasters

1. Personality
2. Teams
3. De-Biasing Training
4. Extremising Algorithms

## Brier Score

<table>
<thead>
<tr>
<th>Day</th>
<th>Rain Forecast</th>
<th>Rain Outcome</th>
<th>No Rain Forecast</th>
<th>No Rain Outcome</th>
<th>Brier Score Calculation</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30%</td>
<td>0</td>
<td>70%</td>
<td>1</td>
<td>$(0.3-0)^2 + (0.7-1)^2$</td>
<td>0.18</td>
</tr>
<tr>
<td>2</td>
<td>80%</td>
<td>1</td>
<td>20%</td>
<td>0</td>
<td>$(0.8-1)^2 + (0.2-0)^2$</td>
<td>0.08</td>
</tr>
<tr>
<td>3</td>
<td>60%</td>
<td>0</td>
<td>40%</td>
<td>1</td>
<td>$(0.6-0)^2 + (0.4-1)^2$</td>
<td>0.72</td>
</tr>
<tr>
<td>4</td>
<td>100%</td>
<td>1</td>
<td>0%</td>
<td>0</td>
<td>$(1.0-1)^2 + (0.0-0)^2$</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Mean</strong></td>
<td><strong>0.25</strong></td>
</tr>
</tbody>
</table>

**Brier Score Scale**

- **Spot on**
- **Random**
- **Completely wrong**

Personality

- Instrumental rationality
- Epistemic rationality

“Beliefs are hypotheses to be tested, not treasures to be protected.”

Personality

Imagine that the Zapper virus causes a serious disease that occurs in one of every thousand people. Say there is a test to diagnose the disease that always indicates correctly that a person who has the Zapper virus actually has it.

Finally, imagine that the test indicates that the Zapper virus is present in 5 percent of the cases where the person does not have the virus.

We now choose a person at random without knowing anything about his or her medical history and administer the test, and the test indicates the person has the Zapper virus.

What is the probability, expressed as a range from 0 to 100 percent, that the individual actually has the Zapper virus?

Personality

Do you know what you know?

A Confidence Calibration Exercise

After answering each of the true/false questions below, indicate how confident you are in your answer using the corresponding slider. A value of 50% means you have no idea what the right answer is (the same probability as a random guess between the two choices); a value of 100% means you are completely confident in your answer.

**English is the top language used on the Internet**

- **True**
- **False**

Probability of correctness: 50%

**The ferrule connects the bristles to the handle on a paintbrush.**

- **True**
- **False**

Probability of correctness: 60%

**Neutrons are the particles in an atom that have positive charge.**

- **True**
- **False**

Probability of correctness: 50%

Calibration and Conviction

Calibration

Source: www.confidence.success-equation.com and Credit Suisse.
Calibration and Conviction

Source: www.confidence.success-equation.com and Credit Suisse.
Calibration and Conviction

Source: www.confidence.success-equation.com and Credit Suisse.
Calibration and Conviction

Source: www.confidence.success-equation.com and Credit Suisse.
Personality

Personality

- **Philosophic Outlook**
  - **Cautious**: Nothing is certain
  - **Humble**: Reality is infinitely complex
  - **Nondeterministic**: What happens is not meant to be and does not have to happen

- **Abilities and Thinking Styles**
  - **Actively open-minded**: Beliefs are hypotheses to be tested, not treasures to be protected
  - **Intelligent and knowledgeable, with a “need for cognition”**: Intellectually curious, enjoy puzzles and mental challenges
  - **Reflective**: Introspective and self-critical
  - **Numerate**: Comfortable with numbers

- **Methods of Forecasting**
  - **Pragmatic**: Not wedded to any idea or agenda
  - **Analytical**: Capable of stepping back from the tip-of-your-nose perspective and considering other views
  - **Dragonfly-eyed**: Value diverse views and synthesize them into your own
  - **Probabilistic**: Judge using many grades of maybe
  - **Thoughtful updaters**: When facts change, they change their minds
  - **Good intuitive psychologists**: Aware of the value of checking thinking for cognitive and emotional biases

- **Work Ethic**
  - **A growth mindset**: Believe it’s possible to get better
  - **Grit**: Determined to keep at it however long it takes

Teams

(a) Potential productivity

(b) Process losses

(c) Actual productivity

## Teams

### Types of Diversity

<table>
<thead>
<tr>
<th>Social category</th>
<th>Cognitive</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race</td>
<td>Education</td>
<td>Task</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>Functional knowledge</td>
<td>Goal</td>
</tr>
<tr>
<td>Gender</td>
<td>Information or expertise</td>
<td>Target</td>
</tr>
<tr>
<td>Age</td>
<td>Training</td>
<td>Mission</td>
</tr>
<tr>
<td>Religion</td>
<td>Experience</td>
<td></td>
</tr>
<tr>
<td>Sexual orientation</td>
<td>Abilities</td>
<td></td>
</tr>
</tbody>
</table>

Teams

- **Psychological safety.** Team members feel safe to take risks and be vulnerable in front of one another.

- **Dependability.** Team members get things done on time and meet a high bar for excellence.

- **Structure and clarity.** Team members have clear roles, plans, and goals.

- **Meaning.** Work is personally important to team members.

- **Impact.** Team members think their work matters and creates change.

Teams

Collective intelligence—c — exists

- Members contribute equally to discussion
- Members score higher in a test of “Reading the Mind in the Eyes”
- Teams with women outperform teams with men

De-Biasing Training

Inside

versus

Outside

Source: Eirik Solheim.
De-Biasing Training

De-Biasing Training

“People who have information about an individual case rarely feel the need to know the statistics of the class to which the case belongs.”

<table>
<thead>
<tr>
<th>Sales: $4,500-7,000 Mn</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales CAGR (%)</td>
<td>1-Yr</td>
</tr>
<tr>
<td>&lt;(25)</td>
<td>105</td>
</tr>
<tr>
<td>(25)-(20)</td>
<td>58</td>
</tr>
<tr>
<td>(20)-(15)</td>
<td>93</td>
</tr>
<tr>
<td>(15)-(10)</td>
<td>218</td>
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<tr>
<td>(10)-(5)</td>
<td>378</td>
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<tr>
<td>(5)-0</td>
<td>732</td>
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<td>0-5</td>
<td>1,239</td>
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<td>5-10</td>
<td>1,080</td>
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<td>10-15</td>
<td>634</td>
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<tr>
<td>15-20</td>
<td>363</td>
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<td>20-25</td>
<td>215</td>
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<td>25-30</td>
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<td>30-35</td>
<td>98</td>
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<td>35-40</td>
<td>53</td>
</tr>
<tr>
<td>40-45</td>
<td>43</td>
</tr>
<tr>
<td>&gt;45</td>
<td>216</td>
</tr>
<tr>
<td>Total</td>
<td>5,684</td>
</tr>
<tr>
<td>Mean</td>
<td>7.9%</td>
</tr>
<tr>
<td>Median</td>
<td>5.1%</td>
</tr>
<tr>
<td>StDev</td>
<td>23.0%</td>
</tr>
</tbody>
</table>

Overweight or Extremize Estimates

- Place more weight on what the superforecasters say
- Algorithm to “extremize” answers

Summary

- Foresight is a real and measurable skill
- Superforecasters are actively-open minded, intellectually humble, numerate, thoughtful updaters, and hard working
- Teams can be better than individuals, but only under the right conditions
- Integrating base rates can sharpen forecasts
- Getting good answers is different than asking good questions
Thank You
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