



EU COST ACTION IS1304
STRUCTURED EXPERT JUDGEMENT
SPECIAL INTEREST GROUP: (RE)INSURANCE

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LANDSCAPE (VAST & LIBELLOUS GENERALISATIONS)

- Unlike what the outside world may think, we are **not** analytical decision makers in (re)insurance.
- Models are mainly a **post-bind administrative burden** rather than a **pre-bind decision making aid**.
- We **make judgements all the time**, often with millions of dollars changing hands, in fractions of a minute.
- Given this – that we **have** to make decisions in data-poor environments at speed – it was obvious to me that the Cooke Classical Model provided the **best, simplest and most intuitive** method by which to improve those judgements.

ACTIVITY

Meetings in London/Lloyd's:

- 2014, August.
- 2016, January.
- 2017, March.

Published in:

- *The Actuary* (2016).
- *The Journal Of Terrorism & Cyber Insurance* (Vol 1, No 1).
- *InsuranceLinked.com* (2016).

Presented at:

- *ARPC-OECD Global Terrorism Risk Insurance* conference.
- **3 meetings.**
- **2 elicitations.**
- **1 study** published in multiple insurance industry locations.
- **1 follow-up study** yet to be analysed.
- **1 book chapter** to be written.
- **1 scientific paper** (fully technical/quantitative) yet to be written.

PARTICIPATION & COSTS

SEJ personnel needed:

- Myself (Raveem Ismail), Willy Aspinall & Christoph Werner.

Participation by experts:

- Lloyd's of London: underwriters, brokers, actuaries, modellers, insurtech.

Cost:

- Intra-UK travel for Willy and Christoph.
- Lunch and venue kindly provided by Lighthill Risk Network (Dickie Whitaker) and SCOR (Phil Holt).



*There are **no hard facts, just endless opinions**. Every day, the news media **deliver forecasts** without reporting, or even asking, **how good the forecasters really are**. Every day, corporations and governments **pay for forecasts** that may be **prescient or worthless** or something in between. And every day, **all of us** - leaders of nations, corporate executives, investors, and voters - **make critical decisions on the basis of forecasts whose quality is unknown**.*

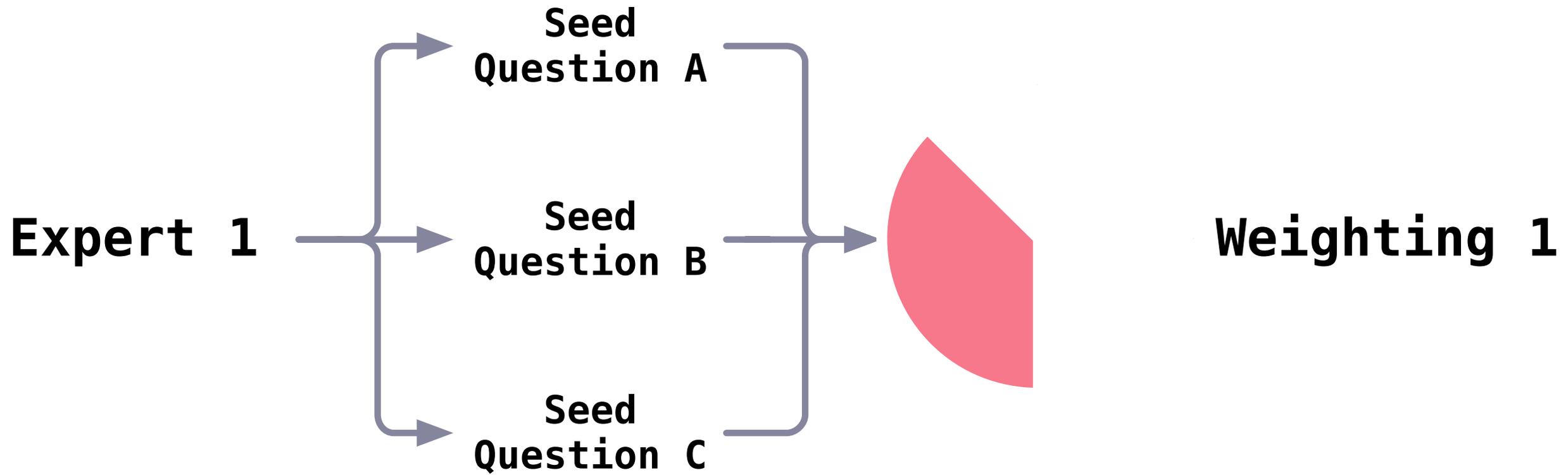
Superforecasting: The Art & Science Of Prediction.

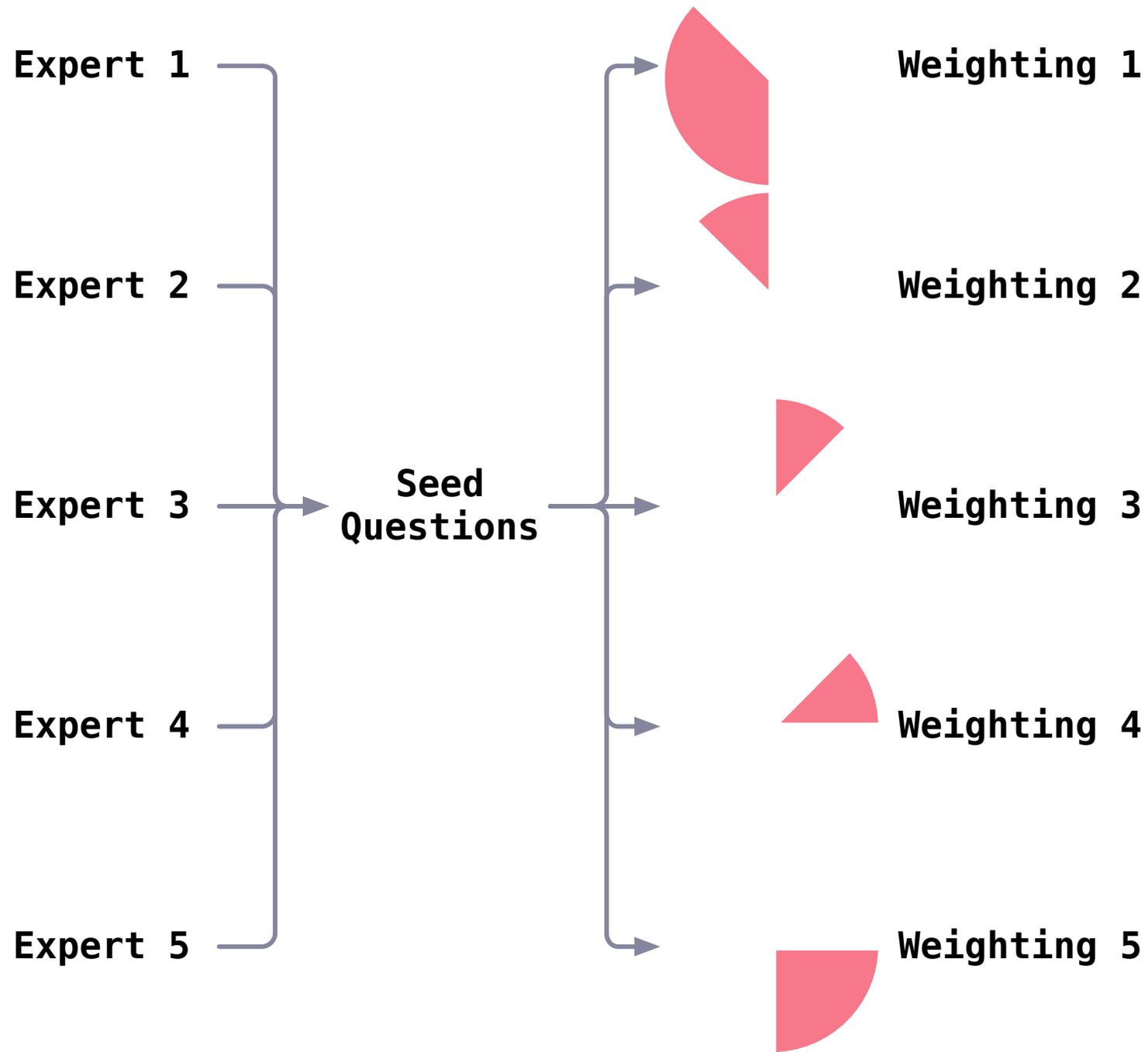
Tetlock & Gardner, 2015, Crown Publishers.

We put investor capital at risk in exchange for premium.

Decision-making should ideally arise from **objective** criteria: exhaustive data / sound physical principles.

Yet we often **have to act** in **data-poor environments**, where we rely heavily on **expert judgement**.

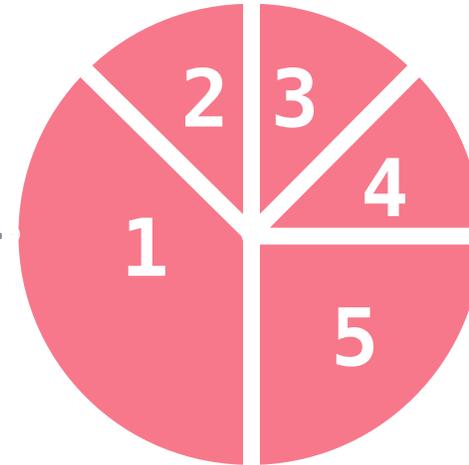




**Target
question**



**Weighted
Experts**



**Weighted
Judgement**

SEJ method: Cooke's Classical Model.

Two metrics requested from experts, within the range of possible values:

- **A 5% to 95% confidence interval.**
- **A central median value.**



These provide a measure of:

“Calibration”

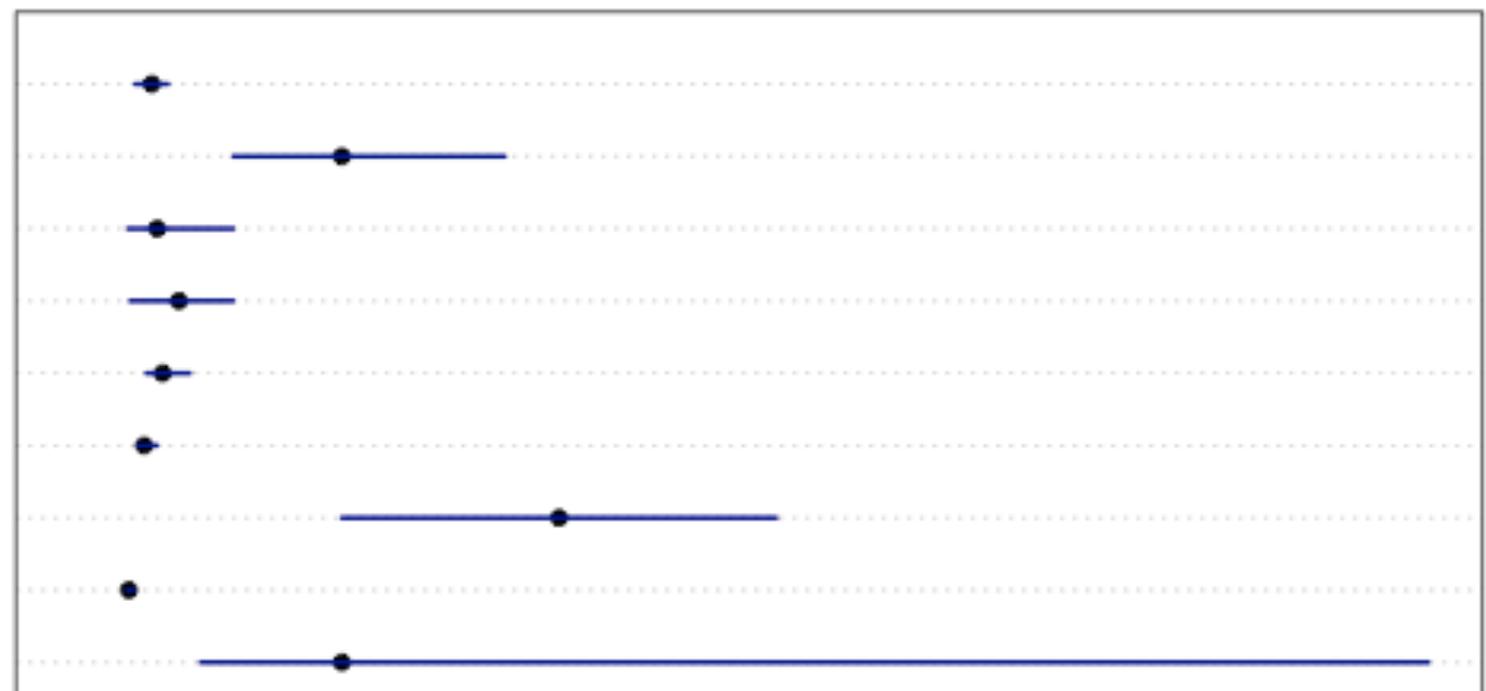
How *accurate* the expert is.

“Information”

How *tightly* the expert gauges his/her own uncertainty.

Seed Question 11.

Expert 1
Expert 2
Expert 3
Expert 4
Expert 5
Expert 6
Expert 7
Expert 8
Expert 9

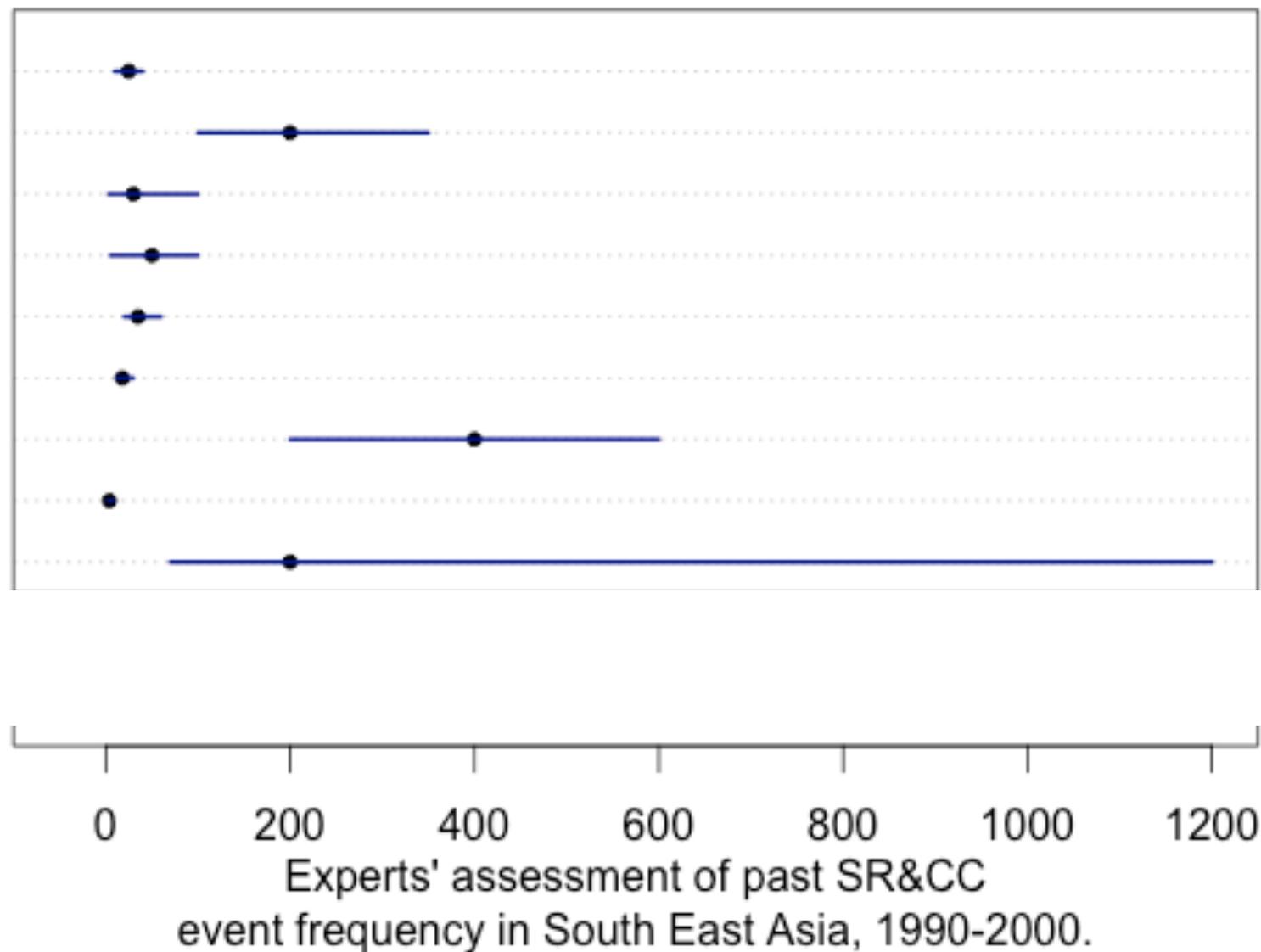


Experts' assessment of past SR&CC
event frequency in South East Asia, 1990-2000.

Expert	Calibration	Information	Equal weights	Performance weights
1	0.2295	1.864	0.1111	0.428
2	<0.0001	1.783	0.1111	<0.0001
3	0.002	2.04	0.1111	0.0041
4	0.2274	1.665	0.1111	0.3785
5	0.0002	2.153	0.1111	0.0006
6	<0.0001	3.01	0.1111	0.0002
7	<0.0001	1.505	0.1111	<0.0001
8	<0.0001	2.495	0.1111	<0.0001
9	0.0001	0.734	0.1111	<0.0001
Equal-weighted combination	0.6286	0.869	0.4242	
Performance-weighted combination	0.5173	1.701	0.7561	

Seed Question 11.

Expert 1
Expert 2
Expert 3
Expert 4
Expert 5
Expert 6
Expert 7
Expert 8
Expert 9



Seed Question 11.

Expert 1

Expert 2

Expert 3

Expert 4

Expert 5

Expert 6

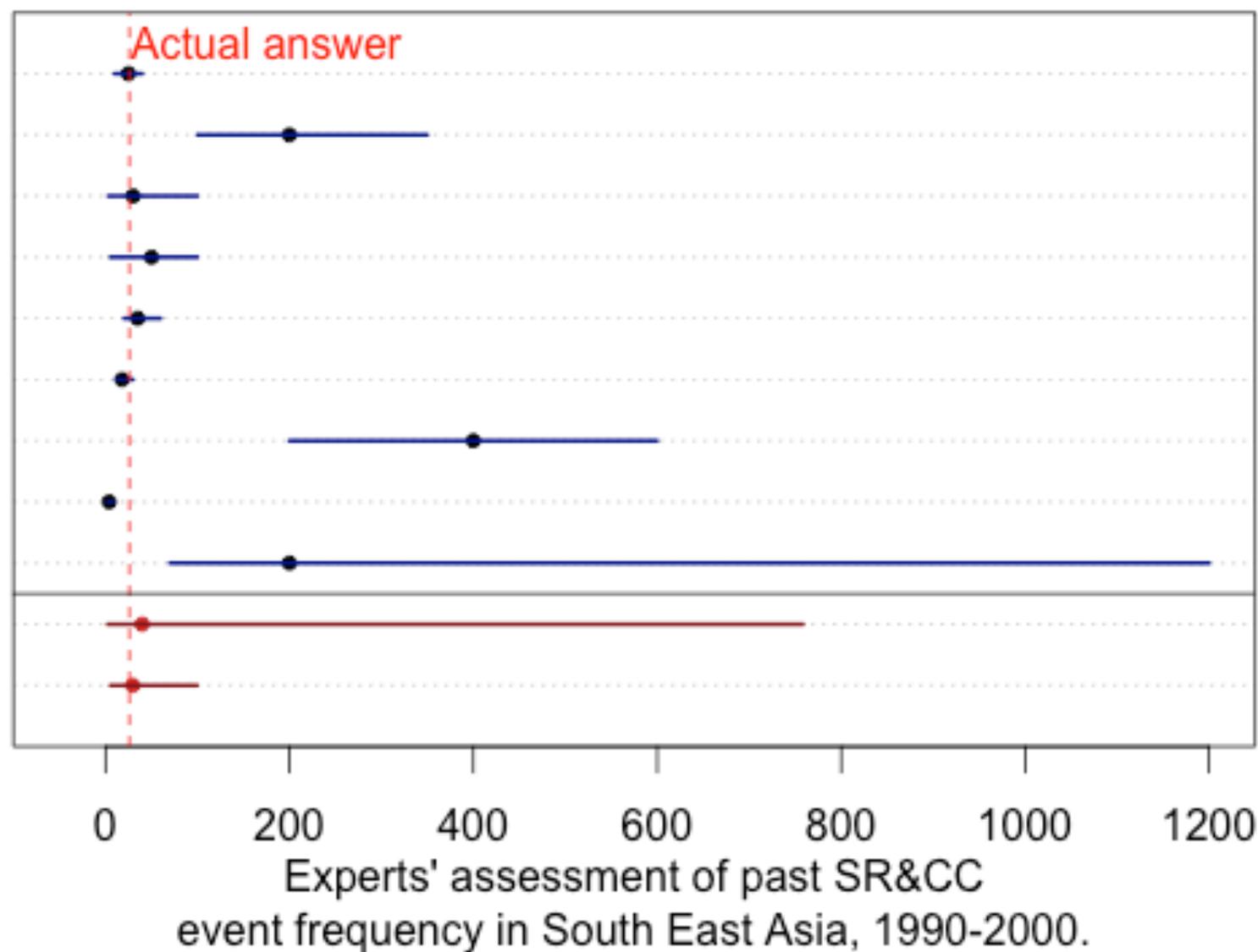
Expert 7

Expert 8

Expert 9

Equal-weighted combination

Performance-weighted combination



Target Question 7.

Expert 1
Expert 2
Expert 3
Expert 4
Expert 5
Expert 6
Expert 7
Expert 8
Expert 9

Equal-weighted combination

Performance-weighted combination

