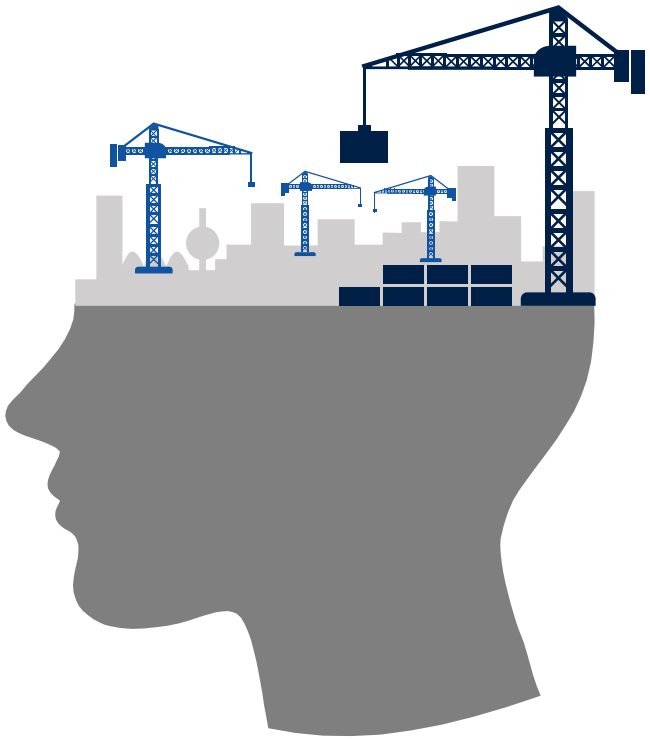
OXFORD | GLOBAL PROJECTS

Challenges, Causes, and Cures of Major Projects



Dr Alexander Budzier

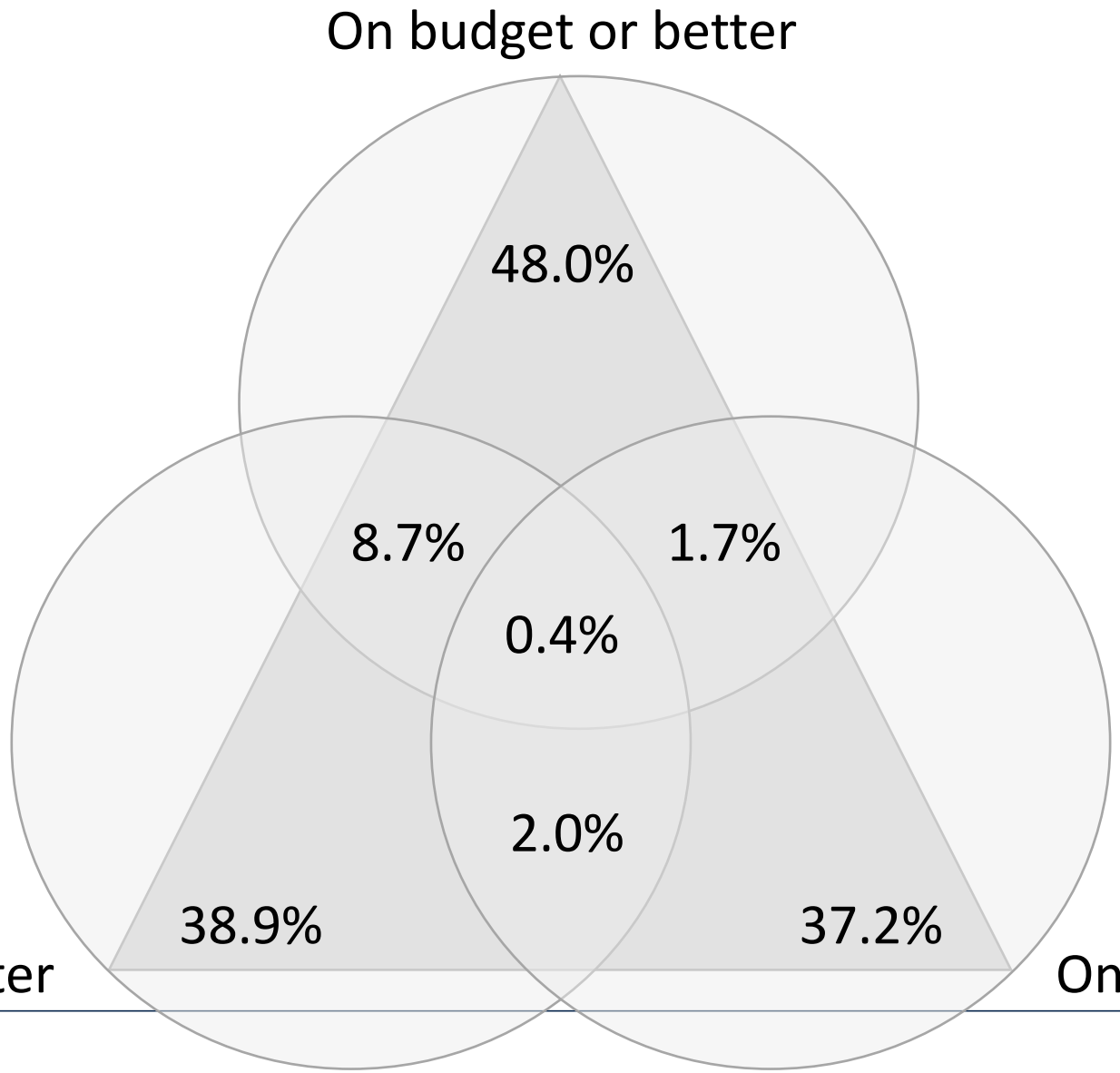
Fellow, Saïd Business School, University of Oxford
Alexander.Budzier@sbs.ox.ac.uk

CEO and co-founder, Oxford Global Projects
Alexander.Budzier@oxfordglobalprojects.com

Project Risk Map

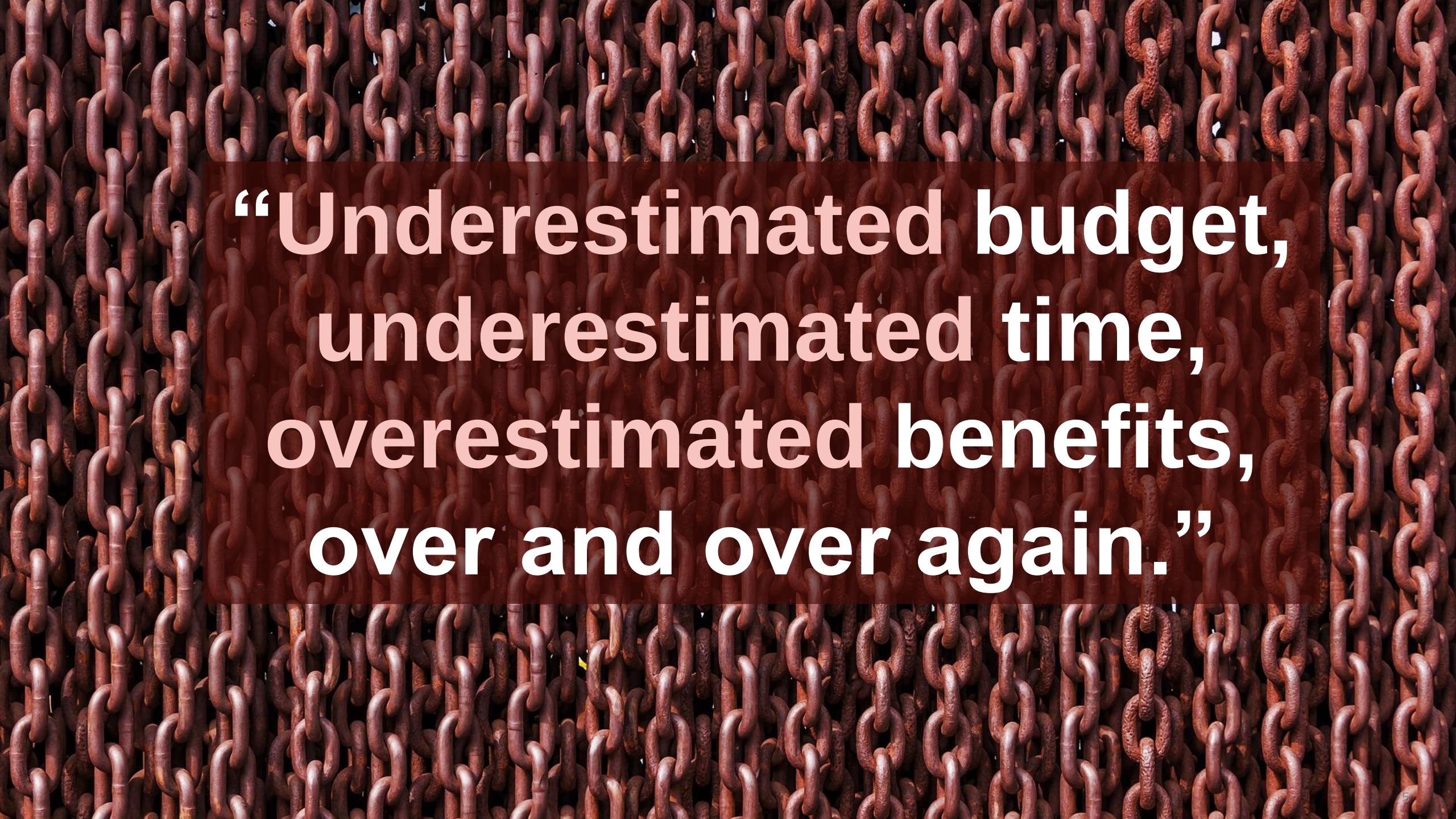
	Solar power	Roads	Rail	Buildings	IT-led change	Dams	Olympics	Nuclear waste storage
Cost overrun	1%	16%	39%	62%	73%	75%	157%	238%
Frequency of cost overrun	4 of 10	6 of 10	7 of 10	7 of 10	4 of 10	7 of 10	10 of 10	10 of 10
Schedule overrun	2%	36%	32%	32%	43%	44%	0%	70%
Benefits overrun	n/a	-5%	-23%	-5%	-28%	-11%	n/a	-23%
Cost Black Swans	0%	4%	10%	20%	18%	23%	57%	43%
Ø duration, years	2.2	4.1	8.0	7.9	3.3	8.0	7.1	6.8

Iron Triangle of Performance



Source: OGP Database Q2 2023 (n = 19,746)

Source: Flyvbjerg, B., 2014. What you should know about megaprojects and why: An overview. Project management journal, 45(2), pp.6-19.

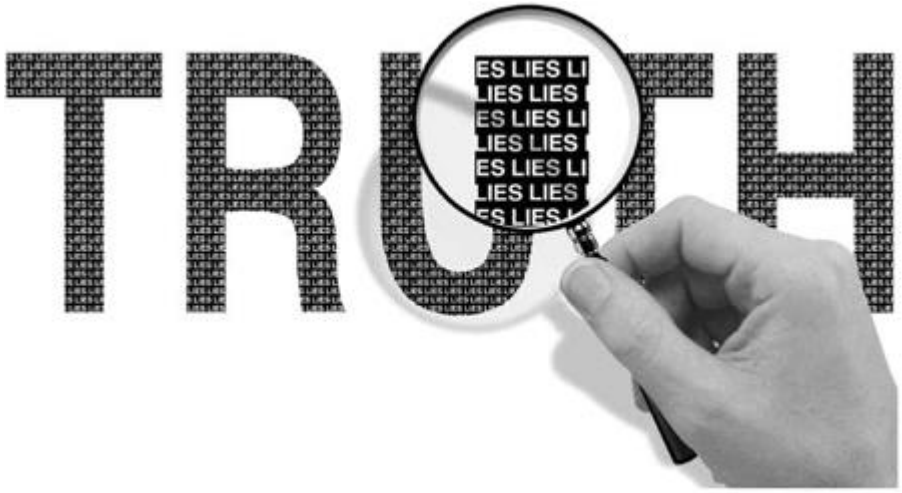

“Underestimated budget, underestimated time, overestimated benefits, over and over again.”

Two Types of Biases

OXFORD | GLOBAL PROJECTS

Psychology

"The cognitive predisposition found with most people to judge future events in a more positive light than is warranted by actual experience." (Flyvbjerg 2006)



Power

"Strategic misrepresentation is the planned, systematic distortion or misstatement of fact – lying – in response to incentives in the budget process." (Jones and Euske, 1991)

In One Project Leader’s Words

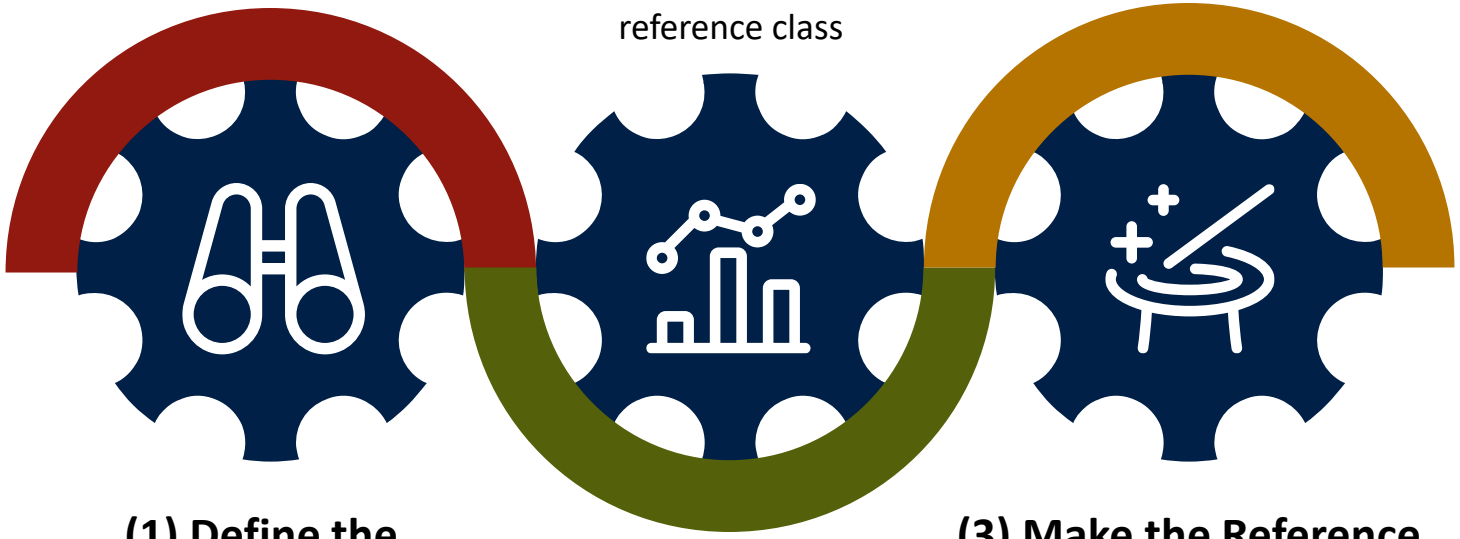
“A good estimate doesn’t guarantee success,
but a bad estimate guarantees failure.”

3 Steps of a Reference Class Forecast

OXFORD GLOBAL PROJECTS

(2) Establish the Probability distribution

Establish probability distribution for the selected reference class



(1) Define the Reference Class

Identify relevant reference class of past, similar projects

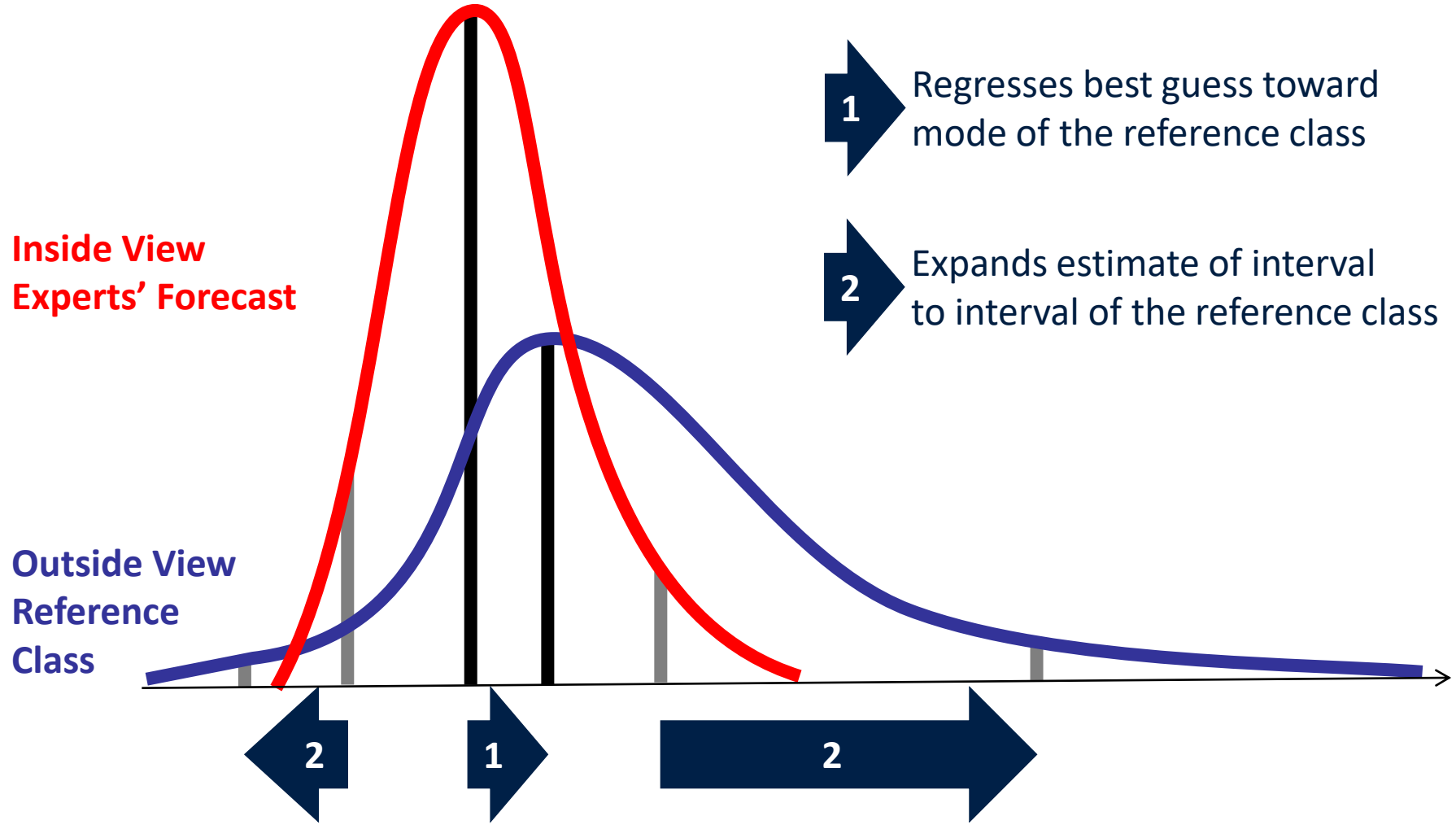
(3) Make the Reference Class Forecast

Compare specific project with distribution, in order to establish most likely outcome

Source: Kahneman & Tversky (1979), Flyvbjerg et al. (2004)

What Reference Class Forecasting Does

OXFORD GLOBAL PROJECTS



High Speed Rail RCF – Express Rail Link Hong Kong

OXFORD | GLOBAL PROJECTS

Step 1: Identify Reference Class of Past, Comparable MPs

1. HSR1, France
2. HSR2, France
3. Shinkansen Kyushu, Japan

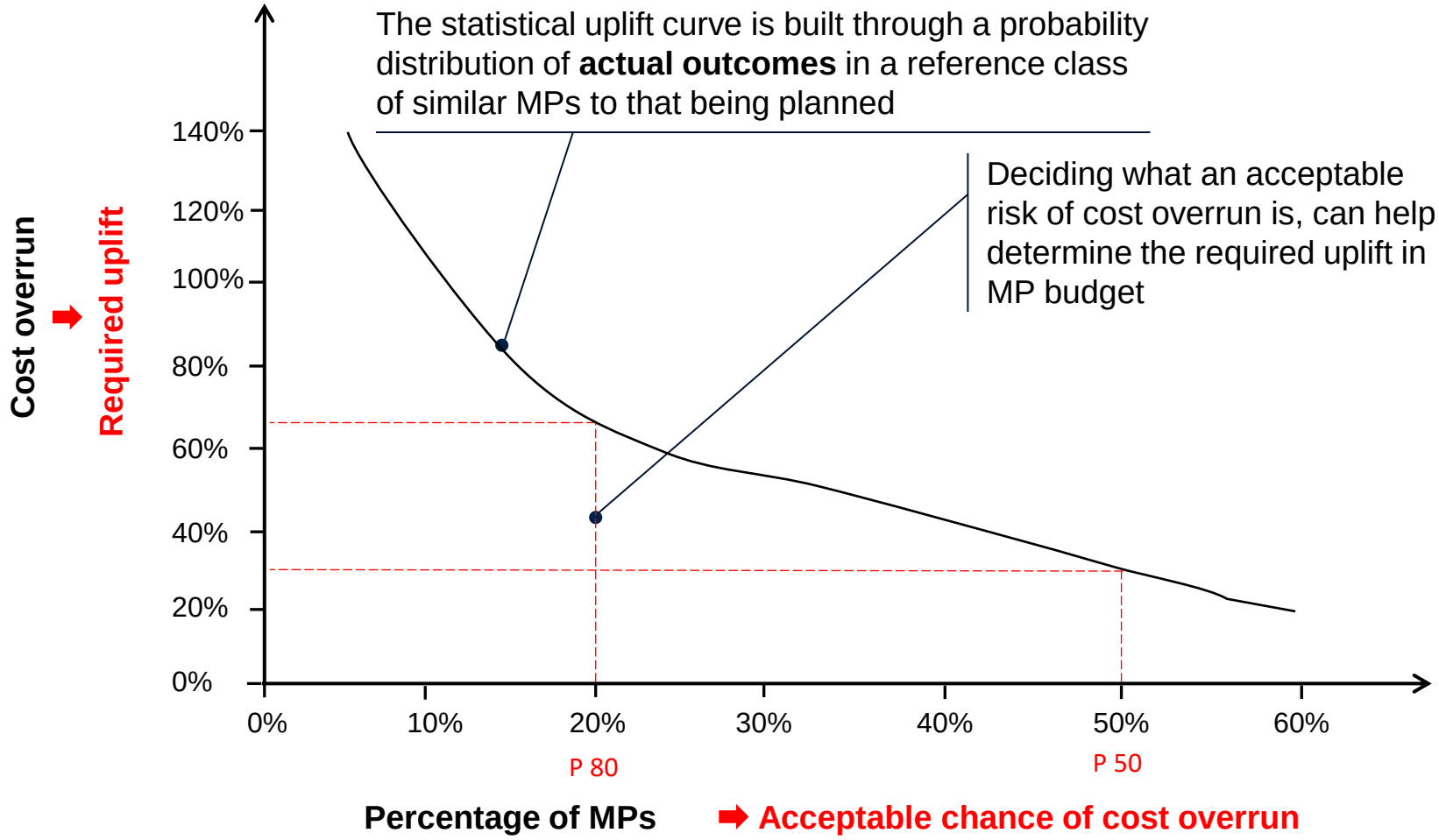
...

i. Spoortunnel, Netherlands

...

195. Chicago Douglas Branch, USA

Steps 2+3: Establish Probability Distribution and Probabilistic Risk Estimate

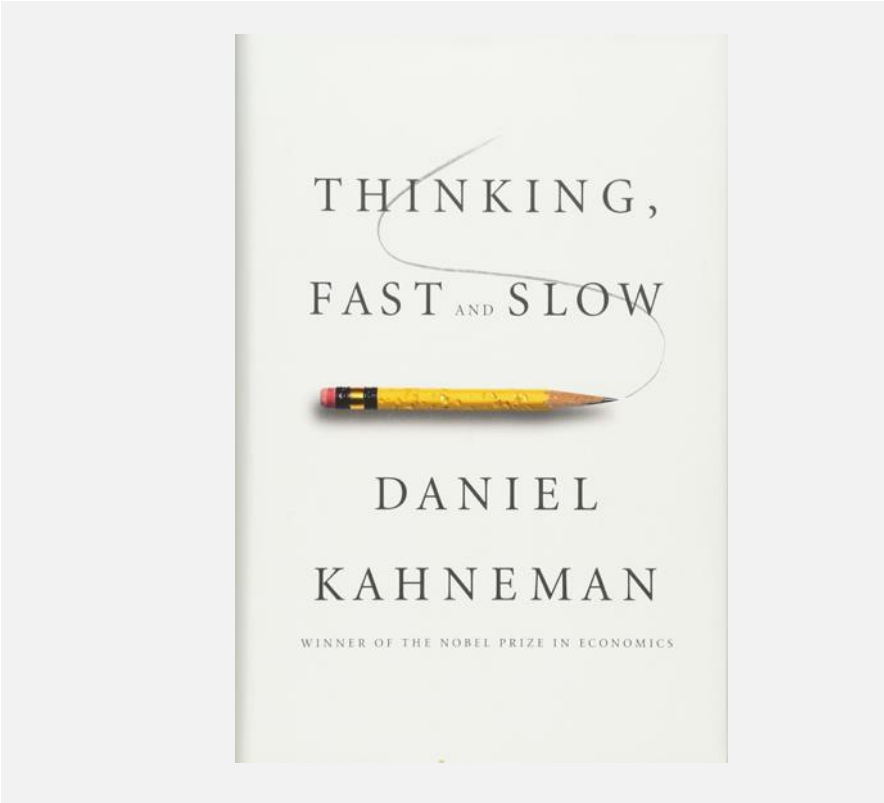


Reference Class Forecasting

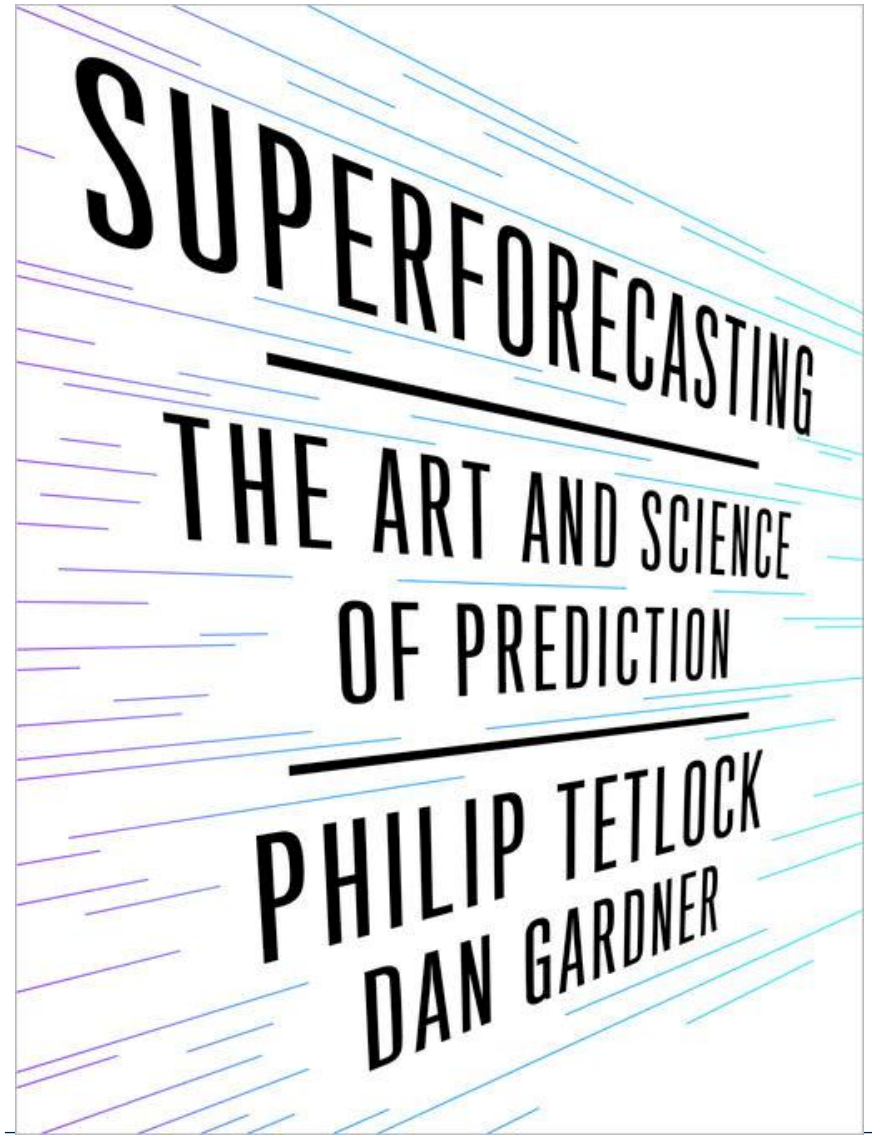
OXFORD | GLOBAL PROJECTS

Reference Class Forecasting has been described by Nobel Laureate Daniel Kahneman as:

"the single most important piece of advice regarding how to increase accuracy in forecasting through improved methods."



Become *Superforcasters* to set Projects up for Success



"Unpack the question into components.

Distinguish as sharply as you can between the known and unknown and leave no assumptions unscrutinized.

Adopt the outside view and put the problem into a comparative perspective that downplays its uniqueness and treats it as a special case of a wider class of phenomena.

Then adopt the inside view that plays up the uniqueness of the problem.

Also explore the similarities and differences between your views and those of others […]

Synthesize all these different views into a single vision as acute as that of a dragonfly.

Finally, express your judgment as precisely as you can, using a finely grained scale of probability."

Source: Tetlock and Gardner (2015:153)