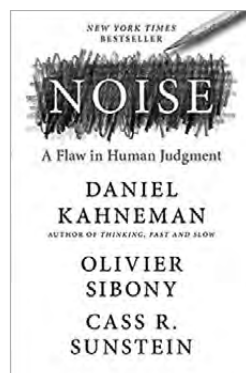


ESSAY

TOWARDS MORE CONSISTENT DECISION-MAKING (REVIEW OF DANIEL KAHNEMAN'S NEW BOOK NOISE: A FLAW IN HUMAN JUDGEMENT)

Ian McAuley

Kahneman's latest work takes us one step closer to understanding flaws in human decision-making. Policy commentator Ian McAuley reflects on the applicability of Kahneman's concept of decision hygiene to dealing with complex challenges – such as a global pandemic.



Daniel Kahneman and his colleague Amos Tversky introduced the world to behavioural economics, for which Kahneman received the Nobel Prize in Economics in 2002, Tversky having died in 1996. That prize was explicitly awarded for their work in *prospect theory* – an empirically based theory about how people depart from the “rational” economic model of decision-making in situations involving risk and uncertainty.

Their work was much broader than prospect theory, however, for they were concerned with the whole set of behavioural traits, some of them well-established, that influence our decision-making in economics and finance. Terms and concepts such as *overconfidence*, *loss aversion*, and *anchoring* are now well-established in the discipline of economics, thanks to Kahneman and Tversky.

Behavioural economists' analysis of the ways we make decisions is, in itself, a significant contribution, but they are also concerned with ways we can improve decision-making. Kahneman's 2011 work *Thinking, Fast and Slow*¹ explains how our quick paths to decision-making, which have served us

1. Kahneman, 2011

well in an evolutionary sense, can lead us to make sub-optimal decisions in many situations. Slow thinking, in which we engage our capacities to draw on experience, analyse and reflect, can often lead to better decision-making. Fast thinking, where we rely on gut feeling or simple heuristics (e.g., choosing only from the most apparent options), often leads to systematic biases in our decision-making. We are well aware of biases that lead us to save too little for retirement, underestimate the time we will take to complete a task, or overestimate our risk of dying from a circulating virus.

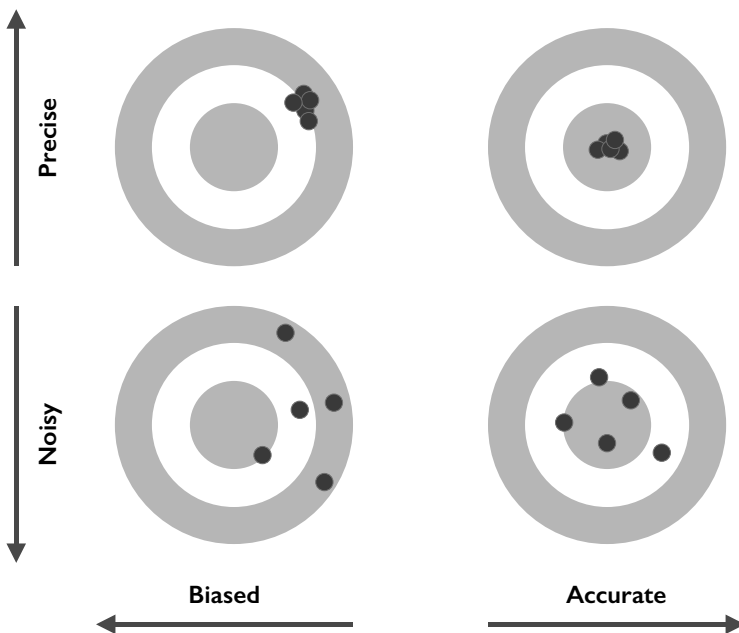
Kahneman's latest work *Noise: A Flaw in Human Judgment*,² written in collaboration with Olivier Sibony of École des hautes études commerciales de Paris, and Cass Sunstein, co-author of *Nudge: The Final Edition*,³ takes us another step towards

understanding flaws in decision-making, and importantly, to demonstrating ways to improve decision-making.

This work relies on a distinction between *bias* and *noise* in decision-making, best illustrated by the more commonly used distinction between *accuracy* (the opposite of bias) and *precision* (the opposite of noise).

For a visual illustration of the distinction, consider the four group shots on target patterns, shown in Figure 1. The two patterns on the left-hand side could come from shooters who have not compensated for the bias of a strong crosswind or whose rifles have the bias of poorly calibrated sights. The two patterns along the bottom – the “noisy” ones that seem to be all over the place – could come from inexperienced shooters or rifles with overheated barrels.

FIGURE 1



2. Kahneman, Sibony and Sunstein, 2021
 3. Thaler and Sunstein, 2021

In this work, Kahneman and his colleagues are not mainly concerned with bias (although bias does come into one of their later chapters), but rather with noise. How can people make judgements subject to less noise?

This is not because they are unconcerned with bias – much of Kahneman's work has been on bias. In this work, however, they are concerned that there is often too much emphasis on bias while there is too little attention to noise. For example, if senior managers know that project teams almost always underestimate completion times, they can consider that bias. If we know that a polling company tends to overstate the vote for a particular political party, we can make a compensating adjustment.

Noise is much harder to deal with, however. They are writing not about the well-known and easily understood Gaussian distribution around survey data, but about the noise that arises from human behaviour in making judgements, not only in business and public policy but in everyday life. Nor do they go along with the idea that when noise is distributed around the correct point, we need not worry because the errors will even out. If a doctor diagnosing melanomas has as many false positives as false negatives, the consequences are severe: some will die of undiagnosed cancer while others will undergo the iatrogenic risk and cost of unnecessary surgery. If a company has recruitment practices that get it right on average but result in many poor choices, it will not find that the positives and negatives average out. The company will suffer the opportunity cost of not hiring good candidates and the realised costs of carrying poor performers.

Kahneman and his colleagues break noise into two main classifications – *level noise* and *pattern noise*, using the sentencing patterns of judges in criminal trials to illustrate these sub-classifications. Some judges are lenient, while others are tough. The sentencing inconsistencies result from the

defendants' luck in getting an easy or tough judge to constitute *level noise*. The other inconsistency that influences judges is that some may be more focused on specific aspects of crime than others: they may be particularly tough on crimes against certain minorities. That is *pattern noise*.

There will be easy markers and harsh markers in school and university examinations of subjects without clear right-wrong answers (*level noise*). There will also be markers who will apply more weight to certain aspects of papers than others in the absence of clear guidelines or standards: some may be most concerned with factual accuracy, some with an understanding of concepts, some with logical structure (*pattern noise*).

They also mention *occasion noise*, referring to the way people's judgements may be affected by their mood or general disposition, such as the much-circulated finding that judges in criminal trials are harsher when hungry. Perhaps we can compensate for such tendencies in our behaviour with a bit of self-awareness, but it is not always clear-cut. For example, an examiner marking 100 essays may subconsciously anchor her marking criteria on the first two or three ones she examines.

Most of the authors' work is devoted to reducing noise in decision-making under the general heading of improved *decision hygiene*. Most of their suggestions, such as obtaining independent judgements from multiple judges and bringing the results together, are not new. The International English Language Testing System (IELTS), which is used to screen people seeking to work, study or live in English-speaking countries, employs an extensive suite of noise-reduction techniques described by Kahneman and his colleagues. Examiners must use detailed marking criteria, retrain and recalibrate at regular intervals, be subject to the periodic random second marking of writing and listening, and the candidate can request a second marker.

Rather than advocating new techniques, the authors emphasise extending established low-noise decision-making techniques to more areas of human activity. They acknowledge that in areas such as medical diagnosis or forensic science, there are already high and improving standards, but they note that even fingerprinting has its limits in a short whodunnit story.

They are particularly concerned with recruitment methods and related issues in performance assessments. To an extent, that may reflect Kahneman's own experience in the Israeli military, where he had been a psychology officer upending established ideas and practices about recruitment and induction.

Even though firms and government agencies use established procedures for recruitment and dedicate much effort to the task, these procedures generally allow for a great deal of noise to distort the process. As most people know, signals that have little to do with a position's duty statement – such as a candidate's clever responses to "warm-up questions", carefully selected clothing, and gait on entering an interview room – can have a significant effect on even the most disciplined selection panel.

While the authors are zealous about getting rid of noise, they are aware that some noise-reduction techniques can have costly consequences. Because they remove human judgement from decision-making, rigid algorithms can be noiseless, but that does not mean they lead to sound decision-making. Australians who have observed the costly failure of the so-called "Robodebt" scheme for assessing compliance with social security schemes would have no difficulty understanding this point.⁴

Between automation and unfettered human discretion, there are many options for noise reduction, however. They advocate rules that remove as much ambiguity as possible from

decision-making: for example, where possible, more reliance on specified standards rather than on general guidelines.

To deal with the problems of examination papers mentioned above, universities and marking authorities may have standards specifying only X per cent to be classed as high distinction, and so on, but even the best ranking systems become subject to upward classification creep. Furthermore, some standards are just dysfunctional, such as Jack Welch's demand that the bottom ten per cent of performers be fired each year: if General Electric was giving jobs to so many poor performers, indeed this was a case for improving their recruitment system. If whatever system the organisation has used to cut out noise does not work, do not abandon the effort: find better methods.

They acknowledge that an emphasis on noise reduction can be subject to the law of unforeseen consequences. The world is not as neatly ordered as designers of decision-support systems would like it to be. There are reasons for human discretion in decision-making – reasons to do with procedural justice, the difficulties of specifying decision criteria, and changing standards.

The authors' advice for improving decision hygiene seems most appropriate for routine, ongoing business decisions, such as recruiting new employees. To illustrate the applicability of their advice to a unique decision, they take the reader through the way a company may decide whether to bid to acquire another business – a process that involves carefully defining different criteria, bringing many people into the assessment, keeping those people from influencing one another's tentative judgements, and avoiding the risk of an early preference.

Is it all too neat, however? Is their advice designed only for a world where the consequences of decisions are incremental, such as hiring a

4. Parliament of Australia, 2020

new employee or making a better melanoma diagnosis? Does it hold for decisions about a company completely changing corporate strategy, a government deciding to change its whole approach to climate change, or public health authorities dealing with a pandemic?

Although the book was written before the results of various governments' approaches to the pandemic could be analysed, we can observe that those governments that have made their decisions on advice from experts in public health and economics have generally made better decisions than those that allowed gut feelings to dictate their moves.

Nevertheless, we might also ask if following the authors' advice on good decision hygiene would have saved governments from the error of assuming that the pandemic-induced recession was going to play out in the same way as other recessions. This assumption led to an extraordinary bout of housing price inflation, increased capital market values, and expensive misdirected compensation payments.

Governments and businesses are dealing with the pandemic, where there is some history, and there are well-established sciences of virology, epidemiology and public health. They are now in the much more complex territory of climate change. There will be better and worse ways to make decisions to deal with the challenge of keeping warming under two degrees by 2050. Is it possible, however, that some of the solutions come from unexpected directions, from gambles that defy some decision-making rules?

Maybe the world is less deterministic than we would like it to be.

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