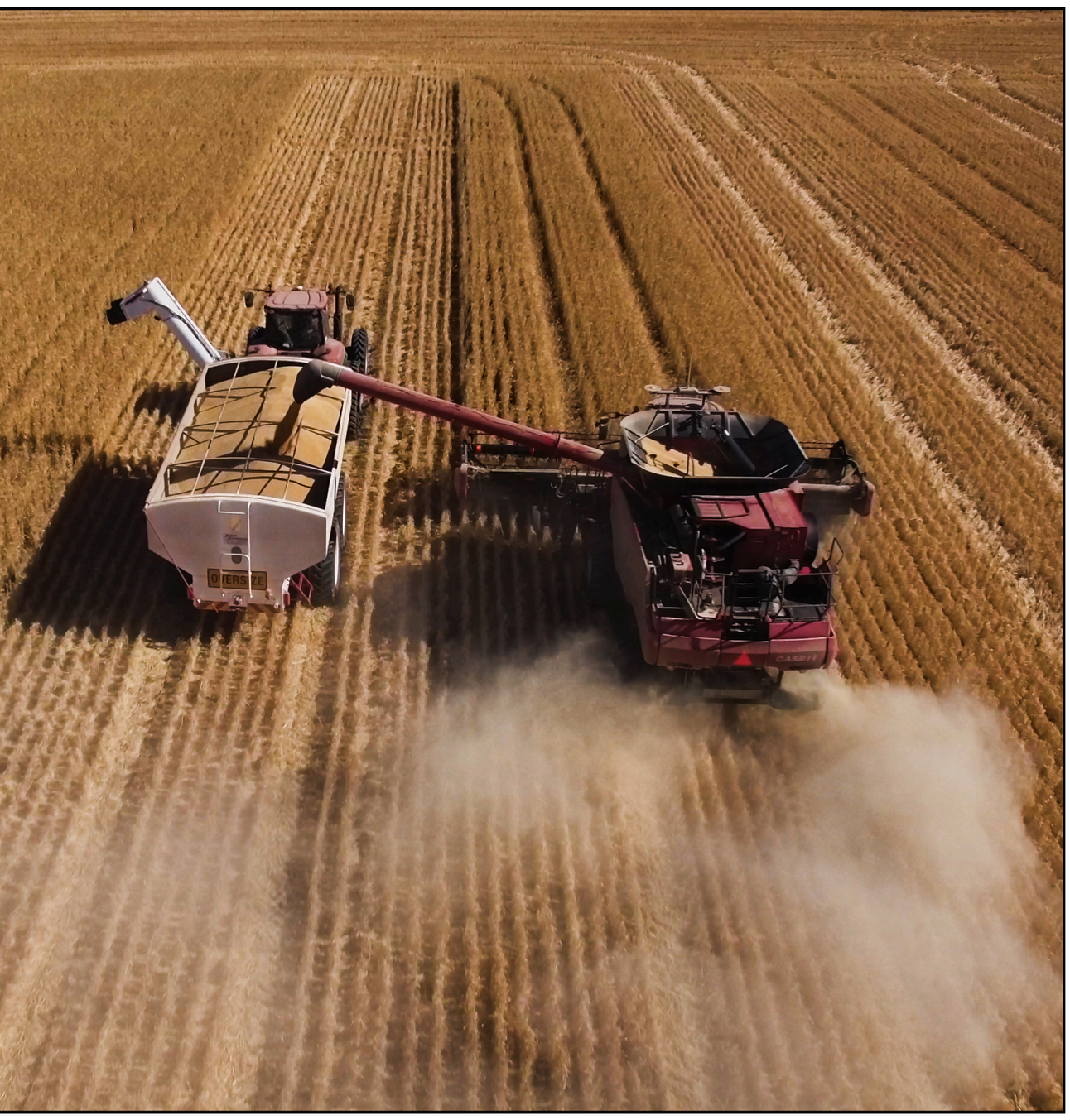
THE UNIVERSITY OF WESTERN AUSTRALIA

RISK IN AGRICULTURE

A series of easy-to-read discussions, explanations and examples on risk and behavioural science written for the Australian grains industry.



The Pannell Discussions RiskWi$e series

- Risk in Australian grain farming
- Risk means probability distributions
- Farmers' risk perceptions
- Farmers' risk preferences
- Strategic decisions, tactical decisions & risk
- Risk aversion and fertiliser decisions
- Diversification to reduce risk
- Intuitive versus analytical thinking about risk
- Learning about the riskiness of a new farming practice
- Neglecting the risks of a project
- Hedging to reduce crop price risk
- Risk premium
- Systematic decision making under risk

RiskWi$e

– the National Risk Management Initiative

GRDC GRAINS RESEARCH & DEVELOPMENT CORPORATION

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GROWER GROUP ALLIANCE Together we grow

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Queensland Government

AIR EP Ag Innovation & Research Eyre Peninsula

Pannell Discussions website

UWA behavioural science team

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Risk in Agriculture

These articles are part of the **Pannell Discussions** RiskWi$e series. Subscribe to Pannell Discussions and learn more on risk and other topics by following the link to sign up: www.pannelldiscussions.net

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Read the full blog here:

Risk in Australian grain farming

PD 405 4th March, 2024 By Prof. David Pannell

Earlier in my career, I did a lot of work on risk in Australian agriculture, particularly for grain and sheep farms. Now I'm part of a project called RiskWi$e, funded by the Grains Research and Development Corporation (GRDC).

The project aims to improve risk management by Australian producers of our main grain crops. Risk is a pervasive issue in agriculture, arising from many sources and affecting every farm-related decision farmers make. It can be quite complex, and I enjoy the challenge of grappling with those complexities and trying to make them clear to myself and others.

This will be the first in a series of Pannell Discussions about risk in agriculture, with a focus on risks that affect the performance of the farm business. I'll start this time by outlining the types of risk that farm business managers face.

Read the full blog here:

Farmers' risk perceptions

PD 408 18th March, 2024 By Prof. David Pannell

Some risks can be measured fairly objectively, while for others there is little objective evidence to go on. Either way, what drives farmers' decisions is their own perceptions of the risk. Their perceptions may or may not line up well with objective measures.

In PD406, I described how risk can be captured as a probability distribution of the outcome that matters to the decision maker (e.g., the probability distribution of farm profit). A key question is, where do those distributions come from? For a farmer wanting to manage risk well, how do they decide on which probability distributions to use?

I'm not assuming here that farmers are going to be developing Decision Theory models and doing lots of calculations with probabilities. Their use of the information is going to be more informal than that (although I will talk in a future post about practical options for being a bit more systematic when considering risky decisions).

Read the full blog here:

Systematic decision making under risk

PD 420 12th June, 2024 By Prof. David Pannell

Intuitive decision making can be good, but as we've seen in earlier posts in this series, sometimes it can lead us astray. When faced with risk, how can we approach decision making in a more systematic way to reduce the chance of us falling prey to our own biases and misjudgments?

There is a well-accepted method for doing this, called Decision Analysis. This was developed around the middle of the 20th century and has been explained in dozens of books and used for countless different types of decision problems. In the context of agriculture, the most famous of the books is the appropriately named Agricultural Decision Analysis, by three Australians: Jock Anderson, John Dillon and Brian Hardaker from the University of New England. This was published in 1977, when UNE was rightly seen as a world leader on this topic. When I was learning about risk and Decision Analysis in the early 1980s, I read several texts, but theirs is the one from which I learned the most. Their follow-up book, Coping With Risk in Agriculture (Hardaker et al. 2015), is also great and is a bit easier to follow.

Since 1977, a lot has changed in agriculture, but the logic of Decision Analysis still stands up. Based on Decision Analysis, I'm going to briefly describe how to make risky decisions in a logical, systematic way.