

Strategic decisions, tactical decisions and risk

2 April, 2024 by David Pannell

My interest in risk in this series of posts is in how it affects decision making. There are two broad types of decisions that we need to consider: strategic and tactical.

By strategic decisions I mean decisions that are made ahead of time, based on best-bet numbers (or maybe best-bet probability distributions). Decisions about which farm machinery to buy are always strategic, based on farmers' expectations about their farming situation in coming years. Specific production decisions can also be strategic. In Western Australia, many crop producers order their fertiliser for the following season before the current season has ended, so the decision on how much to order is mostly strategic. They base the order on a strategic judgement about how much crop they are likely to plant.

Tactical decisions are ones that are adjusted in response to new information. If rainfall during the growing season has been less than average, a farmer might choose not to apply extra nitrogen fertiliser that would have been applied if it had been a more promising season. At the start of the season, they might adjust what area of each crop they plant, depending on early rainfall (or a lack of it) and currently predicted grain prices.

In summary, strategic decisions chart a general direction while tactical decisions are about deviations from that general direction.

Risk comes into this in two ways. As we saw in [PD209](#), if the farmer is risk-averse, decision options that lead to relatively risky outcomes (with a wide range of possible outcomes) are avoided to some extent while decision options with relatively predictable outcomes are preferred. This is relevant to both strategic and tactical decisions.

The second relevant aspect is that tactical decision making is itself a response to risk. If crop yields and prices were known in advance (i.e., not at all risky), there would be no need for tactical decision making. But they aren't known in advance; as time passes farmers get information that helps them better predict yields and prices, and that creates opportunities for tactical decision making. Farmers often talk about "playing the season" and they mean making tactical adjustments to their farming strategy in response to weather conditions.



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From my interactions with Australian grain farmers over the years, my view is that tactical decision making is far more important to them than their risk aversion. As I noted in [PD409](#), there is clear evidence that most commercial farmers in developed countries are risk-averse, but not very risk-averse. Their risk aversion does have some influence on their decision making but only to a modest extent. If they based their decisions purely on maximising expected profit (i.e., ignoring the riskiness of the decision options), then in most cases the riskiness of the profit-maximising decision options would not be very different from the riskiness of the best options that allowed for risk aversion. (Exceptions to that could be where there are large lumpy decisions, like purchase of land or major machinery.)

On the other hand, making good tactical decisions in response to weather or prices can make a big difference to the farm's economic performance. This is especially true in the relatively extreme years – the very good years and the very bad years. Here is an extract from an old paper about tactical whole-farm decision making in Western Australia. I wrote this with Ross Kingwell and Steve Robinson 30 years ago! It's about tactical adjustments to pasture area and crop types across the whole farm. The numbers would be different now, but the general insights still hold.



Over a run of seasons, “optimal tactical responses increase expected net cash surplus by approximately 22% relative to a fixed or inflexible strategy. In most season types, [optimal] changes in the long-term farm strategy are made on less than 10% of the farm area, although in some seasons over 25% of the farm can require adjustments to the enterprise selected. The benefits of enterprise flexibility are not evenly distributed across different season types but occur predominantly in the best and worst seasons.” (Kingwell et al. 1993).

Interestingly, looking at the research on risk management that has been published by agricultural economists, the focus is overwhelmingly on issues related to risk aversion, with much less attention paid to tactical decision making. Another old paper of mine, this time written with Ross Kingwell and Bill Malcolm, pointed this out and argued that a change of emphasis was needed (Pannell et al. 2000). As far as I can see, though, the situation hasn't changed much.

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Further reading

Kingwell, R.S., Pannell, D.J. and Robinson S.D. (1993). Tactical responses to seasonal conditions in whole-farm planning in Western Australia. *Agricultural Economics* 8, 211-226. [Full paper here](#)

Pannell, D.J., Malcolm, L.R. and Kingwell, R.S. (2000). Are we risking too much? Perspectives on risk in farm modelling. *Agricultural Economics* 23(1), 69-78. [Full paper here](#)

This is #5 in my RiskWi\$e series. Read about RiskWi\$e [here](#) or [here](#).

The RiskWi\$e series:

- [405. Risk in Australian grain farming](#)
- [406. Risk means probability distributions](#)
- [408. Farmers' risk perceptions](#)
- [409. Farmers' risk preferences](#)
- [410. Strategic decisions, tactical decisions and risk \(this post\)](#)
- [412. Risk aversion and fertiliser decisions](#)
- [413. Diversification to reduce risk](#)
- [414. Intuitive versus analytical thinking about risk](#)
- [415. Learning about the riskiness of a new farming practice](#)
- [416. Neglecting the risks of a project](#)
- [418. Hedging to reduce crop price risk](#)
- [419. Risk premium](#)
- [420. Systematic decision making under risk](#)
- [421. Risk versus uncertainty](#)
- [422. Risky farm decision making as a social process](#)
- [423. Risk aversion versus loss aversion, part 1](#)
- [424. Risk aversion versus loss aversion, part 2](#)