



## Why is Managing Strategic Risk So Important in Production Agriculture?

Margaret Lippsmeyer and Michael Langemeier

Center for Commercial Agriculture  
Purdue University

May 12, 2023

*farmdoc daily* (13): 87

---

Recommended citation format: Lippsmeyer, M. and M. Langemeier. “Why is Managing Strategic Risk So Important in Production Agriculture?” *farmdoc daily* (13): 87, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, May 12, 2023.

Permalink: <https://farmdocdaily.illinois.edu/2023/05/why-is-managing-strategic-risk-so-important-in-production-agriculture.html>

---

### Introduction

Strategic risks are the uncertainties companies are exposed to because of political, government policy, macro-economic, social and natural contingencies; industry dynamics involving input markets and product markets; and competitive and technological uncertainties (Miller et al., 2004). These risks are present in all industries, but given its competitive nature is particularly relevant for production agriculture. Farm operators are forced to constantly consider how these risks will impact their operations due to incomplete risk markets (Aimin, 2010).

Boehlje (2003) notes that strategic risks are often overlooked by management because these risks are perceived to have low probability of occurrence compared to the frequency of other risks such as financial and marketing risks. However, through increases in international trade and industrialization of agriculture, these “low probability” risks are becoming increasingly prevalent. In recent years, actualization of strategic risks has destabilized agricultural markets, creating high levels of uncertainty and volatility.

This article will discuss recent incidences of strategic risk impacting U.S. farms and stress the importance of building resilience. Our discussion notes that strategic risk is difficult to quantify. Despite this fact, it is important to prepare for these risks.

### Examples of Strategic Risk

Changes in government policy, geopolitical conflicts, technological innovations, and variation in the environment have created additional stress for farm operations, reduced profitability, and caused some farmers to consider exiting the industry. Let’s start by discussing technological innovations. Advancements in technology pose risk due to steep learning curves and the unpredictability of returns on investment. However, unwillingness to adopt also poses a risk of becoming inefficient compared to competitors and losing a competitive advantage. Farms must evaluate benefits and costs of investing in new technologies, and consider opportunity costs associated with the decision.

---

*We request all readers, electronic media and others follow our citation guidelines when re-posting articles from farmdoc daily. Guidelines are available [here](#). The farmdoc daily website falls under University of Illinois copyright and intellectual property rights. For a detailed statement, please see the University of Illinois Copyright Information and Policies [here](#).*

While uncertainty surrounding advancements in technology both threaten and provide opportunity to farms, managers have significant control over how these risks are handled. Other strategic risks lack this control. For instance, environmental threats and geopolitical conflict are strategic risks with little predictability, and often have large consequences.

Weather is a large determinant of crop yield. Without the ability to protect crops from outdoor elements, change cropping decisions mid-season, or manipulate harvest times, farmers are left vulnerable to drought, heat, intense precipitation, tropical storms, and more. A study by Li et al. (2019) found that excessive rainfall can reduce corn yields by up to 34%, based on crop insurance data from midwestern states.

Waldman et al. (2021) studied the impacts of both environmental and socioeconomic threats on farms, concluding that economic shocks pose a much greater threat to farmers than environmental shocks. In particular, the study found that the trade war with China was a major source of stress for U.S. farms and a determining factor in some farms existing in the industry.

While much of the dust has settled from the trade war with China in 2018, apprehension about trade relations between the U.S. and China remain unabated. Legislation to revoke China's trade relation status with the U.S. has been proposed which would result in higher tariffs on goods imported from China (Neukam, 2023). In 2018, similar measures led to retaliatory tariffs imposed by the Chinese government. If past actions are representative of future outcomes, retaliatory tariffs would be a probable outcome if this legislation is put in place.

News headlines also note the tense relations between the United States and Russia. The ongoing war between Russia and Ukraine has significantly disrupted global supply chains. The conflict has brought high levels of market uncertainty, including price fluctuations and scarcity of both farm inputs and products. Developing relations between Russia, China, and countries in the Middle East will continue to place pressure on global markets, creating high levels of uncertainty and leaving many agricultural producers anxious.

"What if" scenarios regarding global relations are difficult to formulate. However, as tensions continue to build, additional trade disputes and international conflicts should be top of mind for domestic producers. Diversification of products, maintaining financial buffers, targeting domestic markets, and the ability to exit farming are all options that must be considered in times of uncertainty. Contingency planning for events mentioned above, and other strategic risks, can be done with scenario analysis where managers construct plans for best case to worst case scenarios (Roucan-Kane et al., 2010).

## **Managing Strategic Risk**

Each of the examples above illustrate that significant threats exist and highlight the need for contingency planning, which is a course of action designed to ensure that a farm can respond effectively to a significant future event. Contingency plans are often referred to as "Plan B". A couple of examples include developing a plan so that a farm can effectively respond to the departure or absence of key personnel, and developing a plan to address possible cash flow shortages (Langemeier, 2020).

In general, there are limited strategies for farmers to reduce exposure to strategic risks, so operators must prioritize increasing resilience towards external pressures. Strategic risk management is the process for identifying, assessing, and managing risks, uncertainties, and opportunities that arise in the business climate (Frigo & Anderson, 2011).

Prior articles in this series detail the need to focus on external factors that can influence farm profitability and describe internal strategies that can be used to build resilience to these threats (Lippsmeyer and Langemeier, 2023a; Lippsmeyer and Langemeier, 2023b). These include accumulation of knowledge and experience, collaboration, and/or networking with other farmers to get a better idea of other management strategies. Holding financial reserves can also act as a buffer as well as a means to pursue new opportunities. The bottom line is that it is important to take time to evaluate exposure and positioning regarding strategic risk.

## Conclusions

Throughout this article, examples have emphasized the prevalence of strategic risk, regardless of the source. Farm managers must proactively plan for redirection of business strategy, rather than endure negative consequences associated with lack of planning in a turbulent environment (Clarke & Varma, 1999). Management of strategic risks requires careful reflection of how both external and internal events will affect a farm's ability to achieve its objectives (Frigo & Anderson, 2011). This article provides motivation for a future article in this series, which will identify strategic risk factors that are top of mind for U.S. crop producers and pinpoint current management practices used to mitigate the impacts of strategic risk.

## References

- Aimin, H. (2010). "Uncertainty, Risk Aversion and Risk Management in Agriculture." *Agriculture and Agricultural Science Procedia*, 1, 152-156.
- Boehlje, M. (2003). *Strategy Development in a Turbulent Business Climate: Concepts and Methods*, Staff Paper 03-06, Department of Agricultural Economics, Purdue University. <http://dx.doi.org/10.22004/ag.econ.28632>
- Clarke, C. J., & Varma, S. (1999). Strategic Risk Management: The New Competitive Edge. *Long Range Planning*, 32(4), 414-424. [https://doi.org/10.1016/S0024-6301\(99\)00052-7](https://doi.org/10.1016/S0024-6301(99)00052-7)
- Frigo, M.L. and R.J. Anderson. (2011). "Strategic Risk Management: A Foundation for Improving Enterprise Risk Management and Governance." *Journal of Corporate Accounting & Finance*, 22(3), 81-88. <https://doi.org/10.1002/jcaf.20677>
- Langemeier, M. "[Contingency Planning with Cash Flow Shortages](#)." *farmdoc daily* (10):62, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, April 3, 2020.
- Li, Y., K. Guan, G.D. Schnitkey, E. DeLucia, and B. Peng. (2019). "Excessive Rainfall Leads to Maize Yield Loss of a Comparable Magnitude to Extreme Drought in the United States." *Global Change Biology*, 25(7), 2325-2337. <https://doi.org/10.1111/gcb.14628>
- Lippsmeyer, M. and M. Langemeier. "[Experience, Knowledge, & Collaboration: Why Good Managers Make an Effort to Improve](#)." *farmdoc daily* (13):39, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, March 3, 2023.
- Lippsmeyer, M. and M. Langemeier. "[Agility and Absorption Capacity](#)." *farmdoc daily* (13):75, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, April 24, 2023.
- Miller, A., C.L. Dobbins, J.G. Pritchett, M. Boehlje, and C. Ehmke (2004). *Risk Management for Farmers*, Staff Paper 04-11, Department of Agricultural Economics, Purdue University. <http://dx.doi.org/10.22004/ag.econ.28640>
- Neukam, S. (2023). *Hawley Introducing Legislation Revoking China's Normal Trade Relations Status*. The Hill. Retrieved March 21, 2023, <https://thehill.com/homenews/senate/3909013-hawley-introducing-legislation-revoking-chinas-normal-trade-relations-status/>
- Roucan-Kane, M., M. Boehlje, M., A.W. Gray, and J.T. Akridge. (2010). *Making Decisions in Turbulent Times: An Analytical Framework and Decision Tools*, Working Paper 10-09, November 2010. <http://dx.doi.org/10.22004/ag.econ.98052>
- Waldman, K.B., S.A. Giroux, J.R. Farmer, B.M. Heaberlin, J.P. Blekking, and P.M. Todd. (2021). "Socioeconomic Threats are More Salient to Farmers than Environmental Threats." *Journal of Rural Studies*, 86, 508-517. <https://doi.org/10.1016/j.jrurstud.2021.07.016>