Declining diversity of production, assets, suppliers, and markets is leading to increased economic and environmental risks for farmers and consumers

Market Analysis

Diversification Barriers and Opportunities for Agriculture in the Upper Mississippi River Basin

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Executive Summary

Agriculture covers more than half of the land area in the Upper Mississippi River Basin states land. Culturally, farming has defined the region. Economically, it is **a region of polarities** – wealth and debt; risk and insurance; independence and reliance on subsidies; stewards and miners of natural resources.

Historical factors spanning **economics, policy, and biology** contributed to the current agricultural landscape. Economics and policy decisions drove farm operation into the hands of fewer, older men. **Input-intensive production systems** operated with large-scale mechanization allowed an aging farm population to operate on more acres with less labor. These systems consist almost exclusively of just two crops: **corn and soy**. Yield increases from innovations in crop genetics and chemically intensive management systems, along with expanded cropping acreage, drove a 3- to 4-fold production increase supporting a boom in **trade** and growth of downstream derivatives from **feed to fuel**.

Farm economics have changed significantly over the past 50 years due to **land value appreciation**, major reforms to crop insurance, growth in domestic and global livestock industries and expansion of biofuel production. The result is an **homogenous, concentrated, and consolidated agricultural landscape** dominated by corn and soy production. Key attributes and outcomes include:

- **Declining diversity** of production, assets, suppliers and markets is leading to increased economic and environmental risks for farmers and consumers.
- **Expanding harvested cropland** by 17 million acres between 1969 and 2017.
- **Doubling down on corn and soy.** Operators increased corn and soy acreage by more than 30 million acres, by taking land out of conservation, perennials, winter grains and pasture. There are now nearly 20 times as many corn acres as there are for all small grains acres combined.
- **Majority of regional land devoted to three major markets:** livestock feed, exports and biofuels.
    - *Feed*. Approximately 40% of the corn crop is used in feed ingredients for poultry, pigs, beef and dairy cows. This does not include DDGs or soy.
    - *Exports and biofuels* together account for 40-60% of UMRB production.
- **Money, policy, and research perpetuate consolidation.** Feed, ethanol, and exports and their downstream industries account for the majority of U.S. agricultural output and value. Agricultural financing, policy, insurance and Extension is largely focused on commodities, making it harder for farmers to adopt specialty cropping systems. They often lack access to capital, training or risk management tools.
- **Specialty crops and niche markets are insignificant.** Everything outside of commodity agriculture is considered specialty. These industries are small and lack scalability in the UMRB. Conventional agriculture operates on a massive, industrial scale and everything else is niche.
- **Consolidation limits competition.** Mid-sized agricultural industries, companies, markets, and tools have disappeared in the name of scale and efficiency. This has brought down commodity prices and increased output; however, the current system lacks resiliency. There are fewer suppliers and fewer purchasers, reducing market competition and innovative disruptions.
- **Consolidation limits innovation.** Large companies control access of ag innovations to producers, and potentially slowing the adoption, when not aligned with their business models. Private research and development funds focus on ag chemicals and food product development, and not innovative ways to improve farm operations or finances.
- **Production value is limited relative to land appreciation.** The homogeneity in markets limits farmers' choice of crops to produce, financing terms to accept, markets to sell to and technology to adopt. With

limited pricing power, farmers face constant pressure from commodity markets pushing prices down. Their only asset that continues to appreciate is land values, which farmers regularly borrow against as seen by record debt levels.

- **Subsidies maintain the structure of the system.** To protect their investment, both farm lenders and farmers are very dependent on crop insurance requirements, programs and payouts.
- **Operator demographics and market structure suppress innovation.** Innovation in the current system is challenging. It is exacerbated by an aging farmer population that is more risk-averse than young farmers tend to be. Low risk-tolerance prevents farmers from innovating for conservation, diversity and sustainability despite a growing demand from food companies.

Expansion of corn and soy production to the near exclusion of all other crops over the past 50 years negatively impacted soil health and water quality outcomes, as well as farm financial sustainability. These systems maximize output at the expense of resiliency and diversity. **Costs of diversification** include loss of efficiencies gained from the scale of current corn soy systems. However, the **benefits of diversification** include improved soil quality, reduced pests and disease pressures and improved water quality due to decreased erosion and nutrient runoff. Economically, farmers benefit from diversification by **spreading risks from market demand and price volatility** across more saleable products.

UMRB agriculture is not diverse in terms of crops, livestock, or operators. With this lack of diversity, individual farmers and the **entire ag system have lost economic, social and environmental resilience**. As climate change intensifies, so do the risks to this consolidated and concentrated system. The need for the country and the region to build diverse, resilient, financially sustainable agricultural systems is imminent.