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The Economic Pamphleteer
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A new series of Economic Pamphleteer columns:
Perspectives on Agriculture, Food Systems, and Communities

Perspectives on the past and future of agriculture

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John Ikerd has contributed "Economic Pamphleteer" columns to the *Journal of Agriculture, Food Systems, and Community Development* since its inaugural issue in 2010. His columns have provided economic perspectives on a wide variety of agricultural, food systems, and community development issues. He provides a perspective that comes from someone who has lived through the transition from small, independent family farms, local food systems, and vibrant rural and urban communities to a corporately controlled agriculture, a global food system, and economic and socially desolate rural and urban communities.

His perspectives are also informed by spending the first half of his 30-year academic career as an advocate for the extractive, exploitative system of economic development that brought about these changes and in the years since as one of its most outspoken critics. He has been a relentless advocate for sustainable family farms, community-based food systems, and an economic and social renaissance of rural and urban communities. The next several columns will focus on John's unique perspectives on changes in farms, foods, and communities over the past 70 years and why understanding the past is relevant in planning and preparing for the future.

The Harvard Business School defines transformational changes as "changes that are typically much grander in scope than incremental, adaptive changes. Very often, transformational change refers to a dramatic evolution of some basic structure of the business itself—its strategy, culture, organization, physical structure, supply chain, or processes" (Harvard Business School Online, 2020, "Transformational Change," para. 1). I have lived and worked through a period of

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*Why an **Economic Pamphleteer?** In his historic pamphlet* Common Sense, *written in 1775–1776, Thomas Paine wrote of the necessity of people to form governments to moderate their individual self-interest. In our government today, the pursuit of economic self-interest reigns supreme. Rural America has been recolonized, economically, by corporate industrial agriculture. I hope my "pamphlets" will help awaken Americans to a new revolution—to create a sustainable agri-food economy, revitalize rural communities, and reclaim our democracy. The collected Economic Pamphleteer columns (2010–2017) are available at https://bit.ly/ikerd-collection*

transformational change in American agriculture.

I was born in 1939 and raised on a small family farm in southwest Missouri. The only farm machinery in our community during the early 1940s was a steam engine that powered a threshing machine that moved from farm to farm at harvest time. Everything on the farm was done with horsepower or human power. We milked cows by hand, picked corn by hand, and plowed fields and cultivated crops with horse-drawn equipment. Like most farmers in the U.S. at the time, most farmers in our community milked a few cows, raised a few hogs and chickens, and grew at least enough feed grains and forages for their livestock. They used crop rotations and livestock manure to manage pests and maintain soil fertility. Neighboring farmers shared their horse power and human power at harvest times—as a matter of necessity. I recall silo-filling crews of up to 40 farmers. Our community may have been a few years behind some other areas, but this was pretty much the state of agriculture in the U.S. in the late 1940s.

Within 50 years, by the late 1990s, farming in the U.S. had been transformed in ways that were unimaginable when I was growing up in the 1940s. Agriculture as a way of life and a way to make a living had been transformed into an agribusiness. Between the early 1950s and late 1990s, the number of farms in the U.S. dropped by more than half, from over five million to under two million, while the average farm size more than doubled, from around 200 acres to 500 acres (Johns Hopkins Center for a Livable Future, n.d.). The number of commodities produced on an average farm dropped down to one to two from four to five (Dimitri et al., 2005). Farmers could tend more land in a couple of hours than a 1940s farmer could tend in a week. Large livestock and poultry operations were more like factories than farms. By the 1990s, large, specialized farming operations, with gross farm incomes of a million dollars or more, dominated the farm economy—agricultural production, farm income, land ownership ... (MacDonald et al., 2018).

Agriculture as a way of life and a way to make a living had been transformed into an agribusiness.

From my perspective, two factors are largely responsible for this transformation in American agriculture. The first was the new agricultural technologies that emerged following World War II. Tractors had begun to replace horses in some areas in the 1930s, but didn't do so in many areas until factories started turning out affordable farm tractors rather than the Jeeps and tanks needed during the war. The number of tractors on farms in the U.S. tripled between 1940 and 1960, and the number of workhorses and mules dropped from 15 million to fewer than 5 million. Farmers specialized and expanded their operations to justify their investments in tractors and specialized farm equipment. Affordable commercial fertilizers and pesticides, also byproducts of World War II, allowed farmers to abandon the crop rotations or integrated crop and livestock systems they had relied on to manage pests and maintain productivity.

The new mechanical and chemical technologies not only allowed each farmer to produce more but also allowed farmers in total to produce more. The resulting surpluses in agricultural production depressed commodity prices to unprofitable levels, forcing reluctant farmers to adopt new cost-cutting technologies to survive. Farmers needed their own hay bailers, grain combine harvesters, or field forage choppers to remain competitive. They also needed more land to justify these added investments. Agricultural economists called this the technology treadmill ("Technology treadmill," 2020). Farmers no longer needed their neighbors to help them farm, but they needed their neighbor's farm. The farmers who didn't get big enough fast enough didn't survive. They sold out or were forced out of farming—they fell off the treadmill. Many farmers in our community either fell off or never got on the technology treadmill; they moved elsewhere.

The second cause of the agricultural transformation was a fundamental change in U.S. farm policy. Rather than addressing the outmigration of farmers as a problem, the policymakers saw it as an opportunity to transform agriculture. In 1962, the Committee for Economic Development (CED), a

prestigious business/academic think tank, assembled a subcommittee to address "the problem of agriculture" (CED, 1962). The resulting report noted the rapid outmigration of farmers beginning in the 1930s, but concluded, "Nevertheless, the movement of people from agriculture has not been fast enough to take full advantage of the opportunities that improving farm technologies and increasing capital create for raising the living standards for the American people, including of course, farmers" (CED, 1962, p. 7).

U.S. farm policies during the 1940s and 1950s had continued the commitments of the Agricultural Adjustment Act of 1938—the first farm bill. The act was meant to provide economic security, or parity incomes, for family farmers for the purpose of "preserving, maintaining, and rebuilding the farm and ranch land resources in the national public interest" (Agricultural Adjustment Act of 1938, p. 31). The CED saw economic security for farmers as an impediment to the efficient use of resources. They proposed an "adaptive approach" that "utilizes positive government action to facilitate and promote movement of labor and capital where they will be most productive and will earn the most income" (CED, 1962, p. 8).

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The CED report provided a blueprint for transformational changes in agricultural policies during the Nixon Administration during the 1970s with Earl Butz as secretary of agriculture. The new policies forced farmers to either "get big or get out" (Carlson, 2008, para. 6). Every farm bill since then has continued to incentivize and support the specialization, mechanization, and consolidation of farming into large industrial agricultural operations.[1] By the time I received my Ph.D. in agricultural economics in 1970, I had been thoroughly indoctrinated into this new vision for the future of farming. The mission of the land-grant university system was really *industrial* technology development and transfer. While the universities claimed the technologies they promoted could benefit all farmers, this was true only if farmers were willing to specialize, mechanize, and expand their farming operations. As agricultural economists, our research and extension programs were designed to help farmers turn their farms into agribusinesses.

The changes in farm policy were necessary to continue the process of industrializing American agriculture. Large, specialized farming operations may be economically efficient, but they are also risky and vulnerable to economic collapse—as evidenced during the farm financial crisis of the 1980s and the COVID-19 crisis that started in 2020. The farm policies of the 1980s were an experiment to see if large, specialized farms could survive without government assistance. They couldn't. Government price supports, deficiency payments, subsidized crop and crop revenue insurance, guaranteed loans, and disaster payments are all means by which taxpayers have absorbed the risks of industrial agriculture. Without these government programs, the industrialization of agriculture likely would have slowed, and possibly reversed, during the 1970s and 1980s.

Changes in American agriculture since the 1990s have been more about control than farm size or numbers. U.S. Justice Department essentially quit trying to maintain the competitiveness of markets during the 1980s. The justification was that consumers would benefit from lower prices and technological innovations if corporations were allowed to expand to scales of maximum economic efficiency. However, without large numbers of competitors, there can be no assurance that consumers will receive the benefits of lower production costs or that consumers have access to products that might better meet their needs (Ikerd, 2023). This is a basic economic principle, the "invisible hand" of free markets, that any econom-

[1] For a detailed discussion of the transformation in U.S. farm policy, see Ikerd, 2022.

ics student should be expected to understand. As we saw with price gouging during the COVID years, once a few large corporations gain control of an industry, they collectively set prices to benefit corporate managers and investors at the expense of consumers.

Since the 1980s, the consolidation of agri-food corporations has eliminated the competitive markets used by independent family farmers. Vertical integration has given large corporate processors and retailers control of agricultural production as well as processing and distribution. The U.S. Department of Agriculture (USDA) estimates that about one-third of agricultural production is covered by corporate contracts (USDA Economic Research Service, 2022). This percentage does not reflect the ability corporate buyers have to dictate production practices or the patents corporations hold on genetically modified seeds. Except for small part-time hobby or lifestyle farmers and the growing numbers of smaller, diversified farms in the organic, local, and sustainable agriculture movements, independent family farms are largely a thing of the past.

But what about the future of farming? The industrial approach to farming is not sustainable over the long run, no matter how economically efficient or productive it may be in the short run. There is no way of knowing how long taxpayers will continue propping it up through government programs. However, there is increasing public awareness of the large and growing ecological and social costs of industrial agri-food systems (Reynolds, 2023). If industrial farming operations were forced to eliminate or pay these external costs, it's doubtful that industrial agriculture could survive more than a decade. Regardless, there will be growing opportunities for farmers to provide knowledgeable and thoughtful consumers with non-industrial alternatives.

Farming sustainably does not mean going back to farming in the 1940s. From my perspective, the early years of transformation in U.S. agriculture were mostly positive for farm families and rural communities. Many farmers simply didn't know any other way to make a living. To them, farming was drudgery, period. When the post-war economic boom created new employment opportunities, they willingly sold their farms and moved out. Also, I don't think the U.S. will need to return to five million farmers, but we may need two or three times as many farmers as today who make a good living farming. Most importantly, total agricultural production will need to be more evenly distributed among family-sized, management-intensive farms rather than concentrated in a few large, capital-intensive farming operations.

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I will close this perspectives on agriculture column with what I feel are the keys to hastening another transformational change in American agriculture—from industrial to sustainable. First, the previous transformation was completed essentially in 50 years—between the early 1950s and the late 1990s. Few if anyone involved with agriculture in the 1950s could have imagined the large-scale, specialized, mechanized, corporately controlled farming operations of the 1990s. The changes before and after this period were incremental, rather than transformational. Agriculture by 2075 could be dramatically different from anything that seems remotely possible today.

Second, our understanding and knowledge of sustainable alternatives to industrial agriculture today are far more advanced than our knowledge of industrial agriculture in the 1950s. Many of the environmental and social costs of industrial agriculture were a result of people doing things without knowing the consequences of what they were doing. Farmers today have access to research on soil health, cover crops, crop rotations, and integrated crop and livestock systems of the pre-industrial era as well as the formal and experiential research of academics and organic and sustainable farmers over the past 50 years and even earlier.

Third, with the technical knowledge in place, a transformational change in farm policies could trigger a transformation in agriculture similar to that of the 1970s. Perhaps what is needed is

another prestigious think tank, like the CED, that understands the need for policies to support a post-industrial agriculture—an ecologically sound, socially responsible, economically viable agriculture. This think tank could make the ecological and social case that we have too few farmers, rather than too many, and propose farm policies that support more farmers who are committed to taking care of the land for the long-run benefit of society as well as themselves.

Finally, a return to vigorous enforcement of antitrust laws could transform the balance of economic and political power, including the power to transform farm policy. The U.S. was faced with a similar situation of concentrated economic and political power in the early 1900s. Monopolies of the time, such as Andrew Carnegie's U.S. Steel Company, John D. Rockefeller's Standard Oil Company, and the American Tobacco Company, were powerful politically and well economically (Investopedia, 2023). Five U.S. beef-packing companies controlled up to 75% of the market (Mathews et al., 1999, p. 9). The trend toward corporate control of markets was reversed by a progressive populist movement that demanded fundamental change. It can and must happen again. My perspectives on this and other aspects of the agri-food system will be the focus of my next column. Ultimately, agri-food sustainability is not an option; it is a necessity.

The trend toward corporate control of markets was reversed by a progressive populist movement that demanded fundamental change. It can and must happen again.

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