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Abstract

Much of the research on farming and agricultural market concentration focuses on the importance of quantitative elements such as price, access to markets or capital, or concentration ratios. And while these quantitative measurements are critical for understanding the impact consolidation has on consumers and producers within the broader agricultural industry, it only represents one aspect. This qualitative study aims to capture the perspectives of Minnesota farmers to explore how consolidated agriculture markets impact farmers' communities and livelihoods. Comparing their perspectives with the current literature regarding market concentration in agriculture and food distribution, this study aims to illuminate the views of independent farmers that are subject to the control of dominant firms that abuse their market power. Semi-structured interviews with Minnesota farmers highlight key elements of the reviewed literature and demonstrate connections between challenges faced by farmers with economic indicators such high costs of farming inputs, the limitations of quality rural healthcare, and the burden placed on farming communities through restrictions on repairing agricultural equipment. A key theme throughout the interviews revealed that many farmers view consolidated industries as systems of control. Control over how they can farm, how they can care for and feed their livestock, how they can repair their machinery, where they can sell their produce and for how much. These systems of control are often hailed as "efficiencies" by consolidated corporate power. But for farmers, these systems of control represent an end to two things farmers and all citizens value most: creativity and liberty.

Introduction

In 2014, author Christopher Leonard wrote a book titled *The Meat Racket* which details how a small circle of companies seized the nation's meat supply chain. In it, Leonard identifies strategies of vertical integration by major meat producers and processors. Vertical integration occurs when companies consolidate their business operations up and down the supply chain in order to obtain greater control of their costs, their prices, and to push out competition from the industry. (USDA, 1998) Leonard's book strikes at the long history of farming and agricultural consolidation that has shaped our food supply chain for decades. Since the 1960s, the pressure on farmers to "expand or expire" has been driving up consolidation in the industry to levels that leave the market exposed to diminished resiliency against shocks and disruptions, high prices, and decreased quality. (Leonard, 2014)

But the agricultural industry is not the only industry that has undergone massive waves of consolidation over the last 40 years that impact the lives of farmers and rural communities. Consolidation has taken root in industries over the whole of the economy, and the impacts of this consolidation are most acute in rural communities where economic opportunity is diminished by proximity. In healthcare, hospital consolidation and pharmaceutical industries leave rural communities with limited access to quality healthcare, and independent pharmacies have closed all throughout rural America as Pharmacy Benefits Managers, or pharmacy intermediaries, squeeze margins on small and independent firms. In Minnesota, over the last decade, the state has lost more independent pharmacies than any other state in the country. (Ramstad, 2023) As pharmacies close in rural communities, access to medicine and medical care diminishes, causing patients and citizens to drive greater distances to access clinical care and over-the-counter medicines.

In the wake of the Great Recession, the banking industry, which is an industry critical to farming as most farmers require substantial capitalization in order to weather the ebbs and flows of market fluctuations, has seen consolidation soar, creating rural banking deserts, housing shortages, and predatory agricultural credit products. (Sebastian, 2022) In e-commerce and retail, Amazon delivery and Dollar Stores have proliferated throughout rural economies to the degree that main street retailers that used to be staples of small-town communities are on the brink of extinction. (Mitchell & Donahue, 2018)

Grocery stores are essential to the health and well-being of every community in America, and this industry, too, has seen incredible degrees of consolidation over this same time period. Corporate behemoths like Walmart and Kroger dominate local grocery markets all throughout the country. In 2022, Walmart accounted for 21 percent of all grocery sales in the US, and 50 percent or more in 43 Metropolitan Statistical Areas (MSAs) and 160 smaller markets. (Mitchell, 2019) In that same year, Kroger announced its intent to acquire its rival grocer, Albertsons, in a \$25 billion deal that they say will create necessary “efficiencies” to adapt to a challenging market. While opponents argue the merger will raise prices, lower wages, and limit choices for consumers. (Sisco, 2024)

The grocery market holds a unique position for farming communities in that its consolidation affects their lives as both consumers of grocery goods and producers of the products that grocers purchase to sell as retail goods. If grocery consolidation proliferates further, as would occur under a combined Kroger-Albertsons landscape, then farmers now have fewer choices for the goods they purchase, and less competition for the goods they sell. And it is this degree of control that corporate behemoths seek through their acquisitions strategies in order to wield market power over local communities.

For all these reasons and more, the scales of industry have unfairly tipped towards the advantage of the largest, most dominant firms, at the expense of everyone else. Workers, small businesses, and consumers all struggle for independence and resources because of the control that monopolized firms exert on economies, and these pressures are heightened in rural areas where there are fewer choices for goods and services.

President Biden's administration has made combating these structural inefficiencies in the economy, through an increased focus on competition and antitrust policy, a major plank of his presidential platform. In July of 2021, less than half a year into his presidency, President Biden issued an Executive Order on Promoting Competition in the American Economy. This Executive Order created a whole-of-government strategy to "address overconcentration, monopolization, and unfair competition in the American Economy." (The White House, 2021) President Biden appointed aggressive antitrust enforcers into powerful positions at the Federal Trade Commission (FTC) and Department of Justice Antitrust Division (DOJ). These law enforcers, Lina Khan as the Chair of the FTC, and Jonathan Kanter as the Assistant Attorney General in charge of the DOJ's Antitrust Division, have employed innovative theories of harm in antitrust law, updated merger guidelines that promote competition, and reinvigorated sections of antitrust law that have for too long been unenforced.

This paper explores the impacts of industry concentration and consolidation in agricultural and food distribution markets on Minnesota farmers and rural communities, while also examining the implications and possibilities for increased antitrust enforcement and innovative antimonopoly policies. It delves into the experiences of Minnesota farmers and explores how decades of market consolidation have diminished their economic resiliency, stability, and community vitality. Through a series of interviews with local farmers, the study

assesses the shift in control away from local self-reliance and towards large, dominant firms that dictate terms which impact everything from farming practices to market prices and equipment repair. This qualitative inquiry complements existing literature by linking these lived experiences with broader economic indicators and antimonopoly considerations.

The research questions at the core of this analysis aim to understand how consolidation affects the autonomy and economic conditions of farmers, the quality of rural life, and the broader implications for market competition. It further explores how these dynamics inform the strategies of antitrust enforcers and policymakers, advocating for a reinvigorated approach to antimonopoly policies that consider both the economic and social dimensions of market consolidation. This approach is critical for crafting effective interventions that ensure competitive markets and support the sustainability of rural communities deeply affected by these consolidations.

Shifting Institutional Interpretations of Antitrust Law and Competition Policy

In 2017, Lina Khan wrote a paper for the Yale Law Journal titled "Amazon's Antitrust Paradox" in which she argued that the neoclassical framework for adjudicating antitrust law was unable to adequately challenge and constrain the anticompetitive characteristics of Amazon. At its zenith of size and power Amazon now dominates industries from cloud storage, book publishing, movies and tv, hardware, delivery, and logistics networks and more. (Khan, 2017) Khan's aim in the piece is to outline the unique aspects of Amazon's dominance and use its unequivocal power in a variety of seemingly disparate and diffused markets to argue for a restoration of traditional antitrust and competition policy laws. This represented a direct challenge to decades of antitrust jurisprudence and classical economic understandings of

competition. Khan's "Amazon Antitrust Paradox" has been cited over 2,000 times since its publication.

Khan's groundbreaking article is aimed directly at the Chicago School's neoclassical framework of antitrust economics. Even its very title echoed the language of the Chicago School's most steadfast adherent: Robert Bork. The Chicago School framework of antitrust championed by Bork argued that the one and only measure with which to determine effects of monopoly power was "consumer welfare." The argument runs as such: If the efficiencies gained through consolidation and concentration lower prices for consumers, then mergers and conglomerates are justified because the lower prices and increased output of the consolidated firm generate greater consumer welfare. Bork argues that a firm's output efficiencies and its ability to lower prices for the consumer, thereby generating the highest utility and satisfaction, or welfare, should be the specific goals of American antitrust law. (Bork, 2021) This "light-touch" approach to antitrust legal interpretation would be applied by the American legal system for the next 40 years, and cited in federal court over 150 times, including 18 Supreme Court opinions by 10 different justices. (Wooldridge, 2024)

In the decades that followed Bork's 1978 publication of "The Antitrust Paradox," the American economy witnessed an extraordinarily high level of merger activity. Since 1995—which is as far back as data from the Institute for Mergers, Acquisitions, and Alliances goes for the following countries—Brazil, Russia, India, China, and South Africa, or BRICS, totaled 170,626 M&A transactions. Over that same period of time, the United States witnessed 387,249 M&A transactions. (IMAA, 2024)

For the farming industry, the concentration of corporate power is notable in the railroad, grain handling, seed, and chemical industries. These consolidated industries then exerted their

market power to effect prices farmers could command for their goods, and the inputs they required to run their farms. (MacDonald, 2018) The impacts of these concentrations of market power in the agricultural industry since the 1990s have had massive implications for rural communities.

According to the 1987 Census of Agriculture, Minnesota had 85,079 farms, comprised of 26,573,819 acres, for an average of 312 acres per farm. (USDA, 1997) By 2017, the Census of Agriculture surveyed that Minnesota's farm numbers had decreased to 68,822 farms, while the total acreage of farms only fell by 1,056,837 acres, to a 2017 total of 25,516,982 acres, and the average farm size increased from 312 acres in 1987 to 371 acres in 2017. (USDA, 2017) These numbers demonstrate that over a 40-year period, between 1987 and 2017, farmland consolidated into bigger farms. Furthermore, this elucidates the "expand or expire" pressures that farmers faced during this period of intense consolidation by the most dominant firms in the agricultural supply and distribution chains.

In 1914, Louis Brandeis published a book titled "Other People's Money and How the Bankers Use It" in which Brandeis outlined arguments against financial and corporate trusts which "tend to the suppression of competition and to [a] violation of the Sherman [Antitrust] Law." (Brandeis, 1932) Brandeis' writings on competition policy gained popularity during the height of the Gilded Age. His theories of competition and advocacy for antitrust mechanisms in government led to the dissolution of Standard Oil and other consolidated trusts. His theories helped usher in the passage of the Clayton Act and the Federal Trade Commission Act of 1914. President Woodrow Wilson appointed Brandeis to the Supreme Court of the United States in 1916.

Just over one hundred years later, in 2018, Lina Khan writing in the *Journal of European Competition Law & Practice*, published an article titled “The New Brandeis Movement” in which she outlines five core principles of antimonopoly policy and argues for the reinvigoration of antitrust law in the American economy. (Khan, 2018) The five pillars of antimonopoly policy as Khan writes in the 2018 article are as follows:

- 1) Antimonopoly is a key tool and philosophical underpinning for structuring society on a democratic foundation.
- 2) Antimonopoly is more than antitrust.
- 3) Antimonopoly does not mean ‘big is bad.’
- 4) Antimonopoly must focus on structures and processes of competition, not outcomes.
- 5) There are no such things as ‘market forces.’

When Joe Biden became President in 2021, these antimonopoly policies were a central pillar to his economic policy platform. He placed Khan as the Chair of the FTC, and the New Brandeis School had made its greatest advance into the halls of power in generations. The challenges to the Chicago School orthodox were swift, resulting in a number of cases brought by the FTC and the DOJ against monopolies in a variety of industries but especially against tech platforms—like those against Apple, Facebook, and Google—and updates to the department’s merger guidelines, and combating unfair and deceptive pricing practices throughout the economy.

Chicago School	New Brandeis School
<ul style="list-style-type: none"> • Focuses on one specific outcome of competition: consumer welfare. • Assumes market structures emerge through natural forces. • Emphasizes risk of over intervention and regulatory enforcement. • Efficiencies 	<ul style="list-style-type: none"> • Focuses on a wholistic view of the competitive process encompassing harm to workers, consumers, and fairness. • Believes the political economy is structured through law and policy. • Views regulation as a necessary check on market power and the tendency towards monopolization.

Methods

Location Selection

Minnesota was selected as an area of focus for a number of reasons. First, and importantly, it is my home state. Minnesota is also a robust and dynamic agricultural marketplace. Annually, agricultural production and processing industries in Minnesota generate over \$106 billion in total economic impact and support 388,000 jobs. The state generates \$21.3 billion in agricultural sales per year and exported \$9.3 billion worth of goods in 2021. (MN DEED, 2023) Its diversity of agricultural production and processing is also a major strength of its dynamic output. Minnesota ranks in the top ten states for agricultural production in crops like sugar beets, oats, wild rice, red kidney beans, green peas, sweet corn, soybeans, sunflowers, and corn. It ranks in the top ten states in livestock production for turkeys raised, hogs, cattle and calves, dairy cows, milk produced, as well as cheese and honey production. Minnesota is home to many Fortune 500 food companies like Hormel, CHS, and General Mills, while also home to the largest privately owned company by revenue in the world: the agribusiness corporation, Cargill.

As important as its dynamic and productive agricultural economy, Minnesota also boasts a robust antimonopoly community of policy makers. The state's Senior Senator, Amy Klobuchar, wrote the book on Antitrust. (Klobuchar, 2019) The state's Attorney General, Keith Ellison, has made antimonopoly a core aspect of his political messaging and has led a number of state level antimonopoly cases against corporations engaging in illegal behavior. And there are many members of the State Legislature that frequently address monopoly issues in the press and in legislation. Moreover, in the Constitution of the State of Minnesota, Article XIII Section 6, there is an explicit prohibition of combinations to affect markets that involve any combination of persons or corporations to monopolize markets for food products. (Minnesota Constitution, 1857) These elements create a unique environment within which to compare the relevant antimonopoly literature, research, policy proposals and advances, with the views and outlooks of people working within and navigating concentrated agricultural markets.

Study Design and Interview Sample

A two-pronged methodological approach was employed to evaluate the effects of market consolidation on Minnesota farmers. The research conducted aims to integrate understanding around policy research with perspectives of farmers in Minnesota. Because the concept of consolidation is ambiguous, it is important to combine quantitative economic reports with oral histories and testimonies from those impacted by how these policies are experienced in the field. Minnesota offers a unique perspective to these issues through the wide variety of agricultural production. Interviews were conducted with snowball sampling between February and April 2024. Justin Stofferahn, the Antimonopoly Director at the Minnesota Farmers Union (MFU), was invaluable in arranging these interviews. His expertise helped to provide insight to the general perspective of farmers within MFU regarding competition issues faced in rural communities

across Minnesota. The sample included farmers in a variety of communities, agricultural sectors, size, and duration of existence. In addition to these interviews, a rigorous literature review was conducted to evaluate a variety of government reports and contemporary publications regarding increasing market concentration. Further research involving a wider range of farmer perspectives could be explored in order to gather additional insights into this matter. Particularly the views of farmers unaffiliated with MFU or on larger conglomerate farms in Minnesota whose views are not reflected in the research but whose perspectives on market consolidation are no less important.

Data Collection and Analysis

Interviews lasted between 45 to 60 minutes and were conducted via Zoom teleconferencing. Interviews followed a semi-structured protocol (see Appendix). The interview questions ranged from personal details about participants' history with farming, types of crops and livestock their farms manage, and the location of their farms and the surrounding communities. Participants were also asked to share their views on a variety of consolidation related areas of interest including how consolidation has impacted their farms over time, how consolidation and firm dominance has impacted their relationships with individuals and businesses within their sphere of influence, and how consolidation has changed the technology that is employed on their farms and the prices of the products they buy and sell. Participants were also asked for their views on how they hope to change these dynamics and see policy implementations that may benefit their farms in the face of increased consolidation in the years ahead. No compensation was provided for these interviews and all participants offered verbal consent for their participation. The researcher took notes during the interview and a video and audio recording was created by the Zoom teleconferencing software. The analysis utilized within this research consisted of a

literature review to establish a grounded theory of market concentration in Minnesota agriculture and farming communities. This grounded theory was then tested by interviews of farmers and stakeholders to identify similarities, continuities, dissimilarities, or contradictions in the research and the theory. The institutional interpretations which underpin many of the policy outcomes and proposals outlined in the literature are now popularly utilized by state and federal antitrust regulators. The goal of this research is to determine whether these theories as implemented into policies are making meaningful difference within the communities they are intended to reach. The literature review and interviews were analyzed with support from Atlas.TI where segments of text and video recordings were coded with outcome-oriented phrases. These outcomes were then thematically organized and reviewed, and the data was triangulated from the quantitative reports, the qualitative interviews, and the policy activity by regulators and legislators.

Results from the Interviews Involving Minnesota Farmers

In the series of interviews conducted, an assortment of perspectives was heard from the interviewees. The group of farmers interviewed hailed from a variety of locations within the state: Pine County in Northeastern Minnesota, Redwood County in Southwestern Minnesota, and Goodhue County in Southeastern Minnesota. These farmers produce a variety of agricultural products, from hog farming to soybean and corn, to pasture raised cattle, sheep, and pork. The farmers spoke about the duration of time their families have worked the land, with one farmer mentioning that their farm in Goodhue County has been in the family for over 160 years. A variety of ages and genders are encompassed within the interview sample. Farmers shared details about their practices involving meat and grain processing, input pricing and availability, direct to consumer sales, agri-tourism, advocacy, and more.

Throughout the interviews, three cross-cutting themes became clear with how these farmers and their communities have had to navigate the changing economic landscapes that were the result of greater levels of concentration and consolidation over many years. The first theme explored was the concept of consolidation as control; control over their practices, their input and output prices, and control over their creative discretion as self-reliant stewards of their land and their livestock. The second theme centered on the idea of market conditions that have forced them to adapt their farming practices over time, and the ways in which consolidated corporate firms use monopoly and monopsony power to exert pressure on small independent farmers. The third theme focused on the ways in which consolidation of agricultural markets has impacted these farmers’ communities and diminished economic opportunities in rural Minnesota. And the final theme revolved around policies that work, and the policy makers leading the way forward towards a more just and equitable economy.

FOUR THEMATIC ELEMENTS OF INTERVIEW RESULTS		
1	Consolidation As Control and Change Over Time	<ul style="list-style-type: none"> • Control over prices, practices, creative discretion, and more.
2	Community Economic Development	<ul style="list-style-type: none"> • Diminished economic opportunity and entrepreneurship in rural communities.
3	Policies That Work	<ul style="list-style-type: none"> • Interviewees identified effective policies and policy leaders

Consolidation as Control and Change Over Time

Interviewees framed the concept of “concentration as control” through ideas of liberty, independence, and self-reliance. The farmers are acutely aware of how consolidation drives

control of their decision-making practices. Control over everything from how farmers are able to feed, doctor, and process their livestock. Control over input prices like gasoline, machinery repair, seed, and fertilizer costs. Control over output prices like how much their products can be sold to the market. One aspect of this concept that was made clear during the interviews is how much this has changed since the 1990s. One interviewee spoke about how previous generations of farmers used to have feed mills on their properties. This meant that the previous generations would grow their seed on the farm and use it to feed their animals. Today, the feed is controlled by consolidated firms that drive feed to the farm on trucks, which results not only in additional costs to farmers but also in hidden costs to society such as transportation costs and climate impacts.

Machinery use and repair is a critical area of control exerted by monopoly firms on farmers. One interviewee spoke about how the new combines are not only restricted to repair services provided by authorized dealers but also how all the yield reports from the corn and soybean fields are sent directly to the machinery monopolies. This includes data from fertilizer use, yields, and everything else that the farmer utilizes their combine for. This data is then recorded and monitored by the large machinery corporations. These are just a few examples of the ways in which consolidation impacts the ingenuity and self-reliance of farming practices, and transfers control of decision-making systems from the land and the steward to a corporate boardroom hundreds of miles away.

Interviewees spoke often about the ways in which they have witnessed consolidation occur in the industries that affect their farms over time. A farmer in Goodhue County mentioned how their fuel provider, their grain elevator, the purchaser of their grain, where they purchase their fertilizer, and their chemicals is all conducted through business relationships with one

single firm. This means that every aspect of their farming business, from where they purchase the materials they need to produce their crops to where they sell their crops to the market, is all controlled by one dominant firm. If these farmers wanted to sell their crops to a competitor, that did not have so much control over their practices, they would have to drive even greater distances, sometimes as far as 50 miles, to reach an elevator that would buy their seed that wasn't owned by the monopoly firm in their area. The farmers were quick to point out, however, that they aren't displeased with this arrangement, and in many ways their service has been great. But they mentioned that this is not the most resilient market structure, and that this consolidation has not brought down prices, either for producers or consumers.

Consolidation and its Impact on Community Economic Development

An additional effect of concentration that these farmers spoke about was the ways in which consolidation impacts the landscape of economic opportunities within their communities. One farmer spoke about how the market power exerted by agricultural equipment companies that require all repairs to farm machinery be completed by dealer-authorized mechanics. This meant that the independent machinists in these small towns were forced out of business. As industries concentrated into fewer and fewer firms, less opportunities become available for rural entrepreneurship. This results in less resilient and less diversified economies and diminishes opportunity for generational wealth transfer in rural communities.

Another farmer shared that as Walmart and Dollar General captured market share in the grocery industry, that the 3rd generation grocery store in the community faced significant challenges. This farmer shared stories about how the community-based grocer donates to the local church, delivered meals to rural elderly families during the COVID-19 pandemic, and in many other ways acted in the interest of the community rather than in the interest of delivering

corporate profits to shareholders. Locally owned small businesses provide greater returns to community than corporate alternatives. Because these small businesses are often owned by people that live in these communities, the money generated by these businesses—the profits they make, the wages they pay, and the tax revenues they generate—stay in these communities. In a 2019 report, it was shown that 30 cents of every dollar spent at a locally owned business recirculates within that community, as opposed to 14 cents for chain stores, and just 6 cents for every dollar spent at Amazon. (Cullen & Cunningham, 2019) This is known as the Local Multiplier Effect, and it is critical for the health and survival of vibrant local economies.

All interviewees spoke about rising healthcare and pharmacy costs and fewer options of choice for healthcare services in rural areas. These high costs and few options have in many cases forced either themselves, their kids, or both, to find off-farm work because the costs for health insurance in rural communities was so prohibitive. All interviewees mentioned that as healthcare and hospitals have consolidated throughout the state of Minnesota, rural communities have had to travel farther distances for the care they need. And this does not just impact the farmers in these communities; it affects all businesses and individuals in rural communities. Because these communities do not have large populations, the cost of buying into insurance programs is extremely high, and as a result, most employers struggle to find affordable healthcare plans to offer employees.

These stories are all shaped by the effects of consolidation in rural towns across the state. And these effects have shaped the economic development of rural communities for decades, driving out small independent entrepreneurs, as consolidated corporate systems of control vacuum up resources that could have been recirculated within the local economy. Despite these negative effects of consolidated market power in rural Minnesota, many of the interviewees also

touch on positive developments within the last few years, as the farmers I spoke with identified changing perspectives held by policy makers and provided useful examples of policies that have worked to better diversify rural communities, and build up resilient, independent economies.

Farmers Identified Policies that Work and Policy Makers Leading the Way

The interviewees identified a series of policies that they viewed as policies that work. One farmer in Pine County discussed local first purchasing rules that invest public dollars in local and regional food systems. Specifically, a program that allowed nonprofits to use public dollar donations to purchase whole cattle from this farm to distribute through food pantries in the Twin Cities. Other interviewees discussed raising penalties against corporations that break antitrust laws. Some mentioned the investment of public dollars into local food systems that allow for simple access to information and incentives that benefit small operators as much as it benefits the largest firms in these food systems.

Each of the interviewees identified specific policies and lawmakers as key actors in advancing antimonopoly policy. President Biden's economic policies on competition were mentioned. In two of the conversations, Minnesota Attorney General Keith Ellison's lawsuit against Evergreen Acres was mentioned in which the Stearns County dairy farm is charged with withholding at least \$3 million in wages and illegally charging workers rent for sub-standard housing. (MPR, 2024) All of the interviewees expressed gratitude that the Minnesota Farmers Union has placed competition and consolidation issues at the forefront, and specifically mentioned appreciating the antimonopoly policies that the MFU advances through its coalition building activities. Interviewees knew by name the Antitrust Division's US Assistant Attorney General Jonathan Kanter. I think these are important elements of these interviews because it demonstrates that when people see their policy makers stand up and fight back against

consolidated corporate power, that these activities raise the awareness level of voters regarding key issues involving competition policy.

Industry Specific Impact of Consolidation on Community Economic Development

In order to best communicate how consolidation within a specific industry can impact community economic development opportunities, I want to outline the effects of concentration in food distribution and grocery systems and connect this to its impact on rural communities. Food distribution and grocery systems are critical to Minnesota farmers, both as producers of goods, but also as residents of rural communities. To do so, a comprehensive review of economic literature on grocery markets will be explored below to illustrate how antitrust enforcement agencies are addressing market concentration in food distribution, and how communities navigate the effects of consolidated grocery industries. First, I will establish the quantitative methodology which the Department of Justice and the Federal Trade Commission utilize to identify potentially monopolized markets. Then we will explore the effects of monopoly and monopsony power within grocery and food distribution markets as observed in economic literature. Finally, we will connect these with the methodology utilized by regulators to apply antitrust scrutiny and enforcement to address concentrations of market power in this sector.

Quantitative Evaluations of Market Concentration

There are two key quantitative metrics widely utilized by policymakers and in academic literature that are essential to understanding market consolidations: Concentration Ratios (CR) and the Herfindahl-Hirschman Index (HHI). A concentration ratio (CR) indicates the size of firms in relation to their industry as a whole. CRs measure the combined percentage of total industry output by the largest producers in that industry. For example, the top four firm CR, or

CR4, refers to the market share of the four largest firms in a given industry. The market share of the top eight is called the CR8. A market is generally considered highly concentrated if the CR4 is greater than 50 percent. (Kenton, 2020) When the CR4 is greater than 50 percent, then the market is determined to be an oligopoly. The HHI is a concentration metric calculated by squaring the market share of each firm competing in the market and then summing the resulting numbers. The HHI scale is from 0, when a large number of firms of equal size exist within a market, to 10,000 when a market is fully controlled by a single firm. (DOJ, 2024)

The United States Department of Justice Antitrust Division and the Federal Trade Commission utilize HHI to make determinations on the legality of merger transactions. The agencies consider an HHI between 1,000 and 1,800 to be a moderately concentrated market. Combined, the CR4, CR8, CR20, and HHI concentration metrics allow researchers and policy makers to identify concentrations of market share. These determinations help provide insight into the market power of a given firm within an industry and how that market power may be utilized.

In Table 1, below, a variety of highly concentrated industries have been identified utilizing these HHI and CR metrics. A recent report from the House Committee on Small Business titled *Competition in the Small Business Economy* highlights a number of markets within which concentrations of market share affect everything from entrepreneurship and consumer prices to wage and wealth inequality. (Velaquez, 2023) Utilizing data from the Economic Census, the report highlights key industries in which the CR4 is greater than 50 percent. These industries touch the lives of almost all communities in America, every day.

Table 1:

Industry (6-Digit NAICS)	Example Companies	Market Share of Top Four Companies
Home Centers	Home Depot, Lowes	96.3%
Warehouse Clubs and Supercenters	Sam’s Club	94.4%
Couriers and Express Delivery Services (UPS)	FedEx Corporation	91.2%
Tobacco Manufacturing	Phillip Morris International	91.1%
Car Rental	Hertz, Avis	89.5%
Wireless Telecom Carriers	AT&T, T-Mobile	86.3%
Breakfast Cereal Manufacturing	Post Holdings, Kellogg USA	81.8%
Amusement and Theme Parks	Six Flags, Seaworld	79.1%
Department Stores	Wal-Mart, Macys, Kohls	73%
Bottled Water Manufacturing	Ds Waters Holdings, Niagara Bottling	72.5%
Electronics Stores	Verizon, Best Buy	71.1%
Passenger Air Travel	American Airlines, United	71.1%
Pharmacies and Drug Stores	CVS, Walgreens	69.4%
Book Stores	Barnes & Noble, Amazon	69.2%
Breweries	Anheuser-Busch	68.6%

To illustrate the application of HHI concentration metrics in a given industry over time, let’s look at concentration in the food retail industry by geographic region. In 2023, researchers at the USDA Economic Research Service compiled the following data on HHI in food retail between 1990 and 2019. The report shows steady increases in the CR4, CR8, and CR20 metrics, as well as HHI averages nationally, state-by-state, across a variety of metropolitan statistical areas (MSAs), and by county. The data also shows that the greatest level of concentration occurs in rural areas. The researchers argue that the county level is the “most realistic market area” because most consumers will only travel 4 to 10 miles from home to food retailers. [Zeballos]

Figures 1 through 4, found in the Appendix, are pulled directly from the USDA report on food retail market concentration and are included here to highlight the increased levels of concentration over time in the markets described throughout this paper. Figure 1 shows the CR4,

CR8, and CR20 as steadily increasing in total percentage of grocery sales between 1990 and 2019. This graph shows that, in 2019, the top 8 national firms control over 50 percent of all food sales. Figures 2 and 4 utilize the HHI metric to demonstrate that the highest degrees of market concentration exist in rural counties, and that these HHI concentrations are at their highest historical levels. In 2019, the county-level HHI was over 3,500, or highly concentrated by DOJ determinations, and the HHI for rural communities was over 5,000. These metrics demonstrate highly concentrated grocery and food sale markets in the nation's rural counties. Figure 3 illustrates the increasing percent change of concentrated grocery markets between 1990 and 2019, showing that over this period of time, the HHI has increased over 450 percent, creating concentrations of market power in grocery and food distribution that consolidate power within the grasp of only a few firms that then exert this power to dictate the terms of engagement in the marketplace for food sales in the United States.

Crucially, this methodology—utilizing HHI and CR ratios to demonstrate illegal merger activity and challenge proposed mergers between large firms in already consolidated markets—was most recently cited in the FTC's challenge to the proposed Kroger-Albertson's merger. Monopoly and monopsony power within the grocery industry exhibit profound effects on consumers and suppliers. Monopolists shape pricing dynamics, eliminate market access, and destabilize innovation. Recognition of these effects is crucial for mitigating the effects of market concentration. Monopoly power leads to higher prices for consumers, reduced choice, and consumers are harmed under these conditions. The FTC alleges that, should this proposed merger be allowed to consummate, it would create the largest supermarket in US History, eliminate competition while raising prices for millions, and create monopsonistic market conditions that

harm tens of thousands of workers from earning higher wages they would otherwise have access to under competitive market conditions. (FTC, February 2024)

It is within these market conditions that President Biden's antitrust enforcers have asserted authority. And the COVID-19 pandemic that began in 2020 only entrenched these consolidations of market power further. In March 2024, the FTC issued a report on the disruptions to the grocery supply chain caused by the COVID-19 pandemic. The 67-page report goes into great detail about the structure and definitions of grocery markets, but its key findings highlight just how precarious the industry finds itself in the face of such entrenched consolidation. The report found that the largest purchases, such as Amazon, Kroger, and Walmart, were able to exert their market power to bully suppliers into providing favorable terms at the expense of smaller players within the same market. This meant that, at a time when the economic viability of companies and households around the country were at their most vulnerable, market dominant firms were able to exert their power to force exclusive deals with suppliers in order to extract greater profit from American communities. (FTC, March 2024)

Conclusion

In this research, the effects of unchecked corporate consolidation have been laid out in detail, particularly focusing on how consolidation shapes rural communities and the livelihoods of Minnesota's farmers. It is imperative that state and federal regulators reinvigorate antitrust and competition policy that encourage fairness throughout markets, and that do not allow for dominant firms to abuse their market power to harm workers, producers, and ultimately consumers. Increasing fair competition in agriculture and other industries that impact the food supply chain are not only policy decisions based on the economic and financial data laid out within the government reports outlined in this paper. These policy decisions are also about

creativity and liberty. The liberty of farmers and consumers being able to make their own choices about how our food is grown, raised, and processed. The liberty of farmers to be able to repair their own equipment. And the freedom to choose the type of farming practices that best align with the individual farmers' needs, and not the demands of corporate boardrooms. Through an in-depth analysis that marries the firsthand testimony of Minnesota farmers with a broad spectrum of economic literature on market concentration, this study bridges the gap between empirical evidence and theoretical frameworks and also vividly illustrates the multifaceted challenges that farmers face within monopolized sectors.

It is imperative that state and local policy makers utilize antitrust laws to combat the sophisticated and evolving strategies of monopolistic corporations. Lawmakers must be courageous enough to confront the monopolists and confidently declare that, no, we will not allow monopoly power to dictate the rules of engagement within sectors of the economy that impact all of the citizens of our state. This erosion of regulatory efficacy for antitrust policies by the courts, and the impact of policy makers' leniency toward big business not only undermines the economic viability of farming operations but also threatens the very fabric of rural economies. These effects threaten the stability and resiliency of vital food supply systems that we all depend on, and these markets need to be accountable to the democratic institutions that shape the regulatory landscape of economies. We can no longer place our blind faith in the monopolists' balance sheets. This gets to the heart of principles at the core of American democracy.

The call for action is both clear and pressing. This study advocates for a holistic reevaluation and revitalization of antitrust law. It urges policymakers to devise regulations that are carefully crafted to address the contemporary challenges of increasing market concentration

and consolidation. This involves not only strengthening the legal framework to remedy anticompetitive practices but also promoting policies that encourage innovation and competition within the agricultural sector. Such measures foster an environment where small and medium-sized farming operations are able to thrive alongside larger conglomerates, ensuring a dynamic and competitive marketplace.

Furthermore, the research underscores the importance of adopting a local first approach in the formulation of competition policy. By directing institutions to invest their budgets into local and regional food systems, we can better align our policy interventions with the needs and perspectives of rural farming communities. As a result, we can increase the likelihood of developing interventions that are both effective and equitable while also guaranteeing stable revenue streams for our small and medium sized farms. For example, imagine a world where the University of Minnesota system of five statewide campuses directed portions of its food procurement budgets to support local and regional farm and food systems instead of food distribution companies like Sysco Foods.

In conclusion, the stark realities of market consolidation in Minnesota's agricultural sector presents a definitive case for the revitalization of antitrust policies at all levels of government. It calls upon policymakers, industry leaders, and the broader community to take decisive action in crafting a regulatory landscape that not only checks the excesses of market power but also champions the principles of competition, innovation, and fairness. As we stand at this critical juncture, the future of agriculture in Minnesota, and across the nation, hinges on our collective resolve to ensure a balanced, competitive, and resilient agricultural sector that can sustainably feed the people.

Policy Recommendations

- 1.) *Invest institutional funding into local and regional food systems* — by investing institutional funding towards local food systems we can generate stable and sustainable revenue streams for farmers and create resilient, dynamic, and competitive markets for high quality fresh produce.
- 2.) *Reinvigorate antitrust policies at the federal, state, and local levels of government to confront monopolistic behavior* — the need for antitrust actions against monopoly power in the food system is clear, and there are many areas that such interventions might prove effective. One specific example is to reinvigorate the Robinson-Patman Act that prevents price discrimination based on market power. This recommendation is more clearly articulated in a recent paper by Callaci, Hanley, and Vaheesan of the Open Markets Institute titled *The Robinson-Patman Act as a Fair Competition Measure*.
- 3.) *Antimonopoly is more than just antitrust* — Adopt antimonopoly policies that broaden the scope beyond traditional antitrust measures to enhance community welfare in rural areas. This approach should focus on curtailing the market dominance of large corporations to prevent them from disadvantaging rural businesses and local entrepreneurs. Implement regulatory measures against major agribusiness consolidations, promote local and regional market structures that support agricultural diversity, and ensure fair pricing mechanisms. Additionally, support community-based economic initiatives through targeted funding and incentives, such as grants for local farmers' markets and infrastructure development, which enhance the economic resilience of rural communities by ensuring that local profits are reinvested locally. This place-based approach to

antimonopoly policy will foster a competitive, diverse, and sustainable economic environment in rural areas.

- 4.) *Support legislators that are courageous enough to confront monopoly power in the legislatures* — state legislators are vital to implementing a regulatory environment that challenges market power and punishes anticompetitive corporate behavior. When we see legislators that are willing to take on that fight and lead the way forward to create the necessary checks and balances to corporate power, we must uplift and support those efforts, so more policy makers know that antitrust and competition issues matter to voters.

Acknowledgments

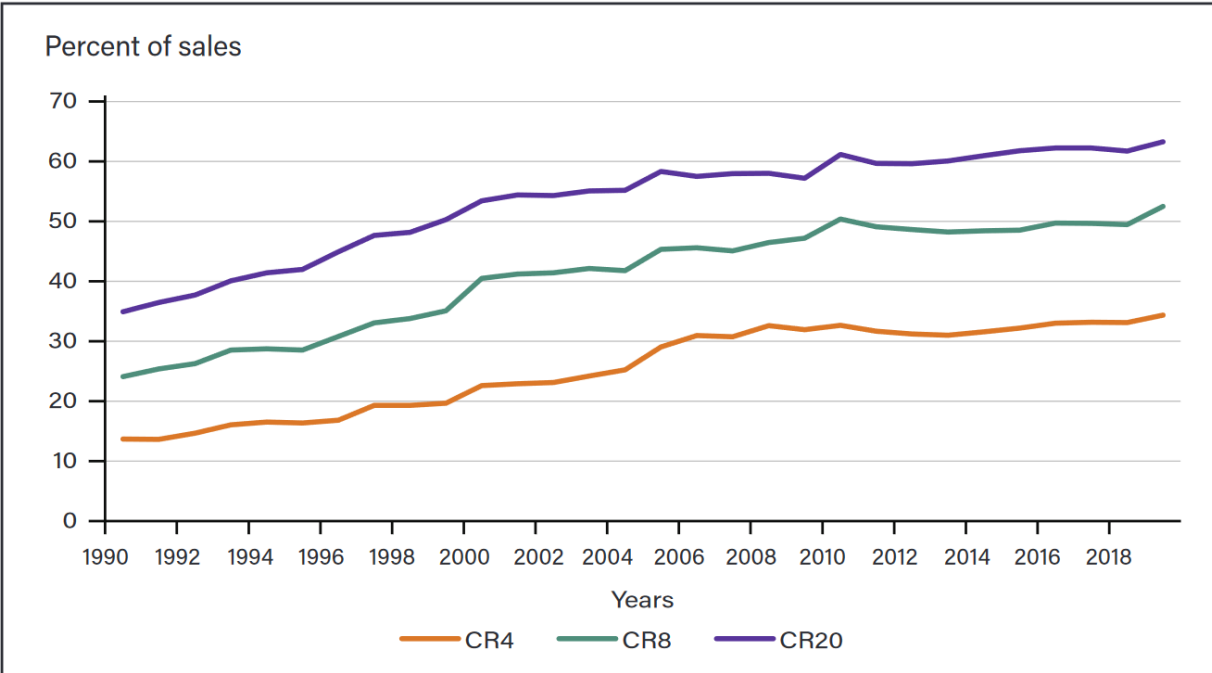
Although there is only one name on the title page of this document, this effort was not mine alone. A number of crucial relationships helped bring this paper together, and I would like to take a moment to thank everyone that made this possible. Beginning with my supervising committee: Dr. Nichola Lowe and Justin Stofferahn. Dr. Lowe's arrival at the Humphrey School was truly a stroke of serendipity. Not only to aid my efforts with this paper and to guide my learning about community economic and workforce development, but also to offer great recommendations for award-winning Indian food in Asheville, North Carolina. Justin's guidance and leadership throughout my time at the Humphrey School has been entirely indispensable, and I am very grateful that a Twitter DM that can be summarized as "Break 'em up!" turned into a great friendship. Despite my stubborn reluctance to acquiesce to certain stylistic elements of writing, Dr. Deborah Levison's support throughout the course of this process has been tremendous. And Dr. Samuel Myers advising support was instrumental for inspiring the exploration and curiosity of the topic area navigated here. To my partners in process: Kristin

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Appendix

Figure 1

Figure 1
National CR4, CR8, and CR20 ratios for food sales, 1990-2019

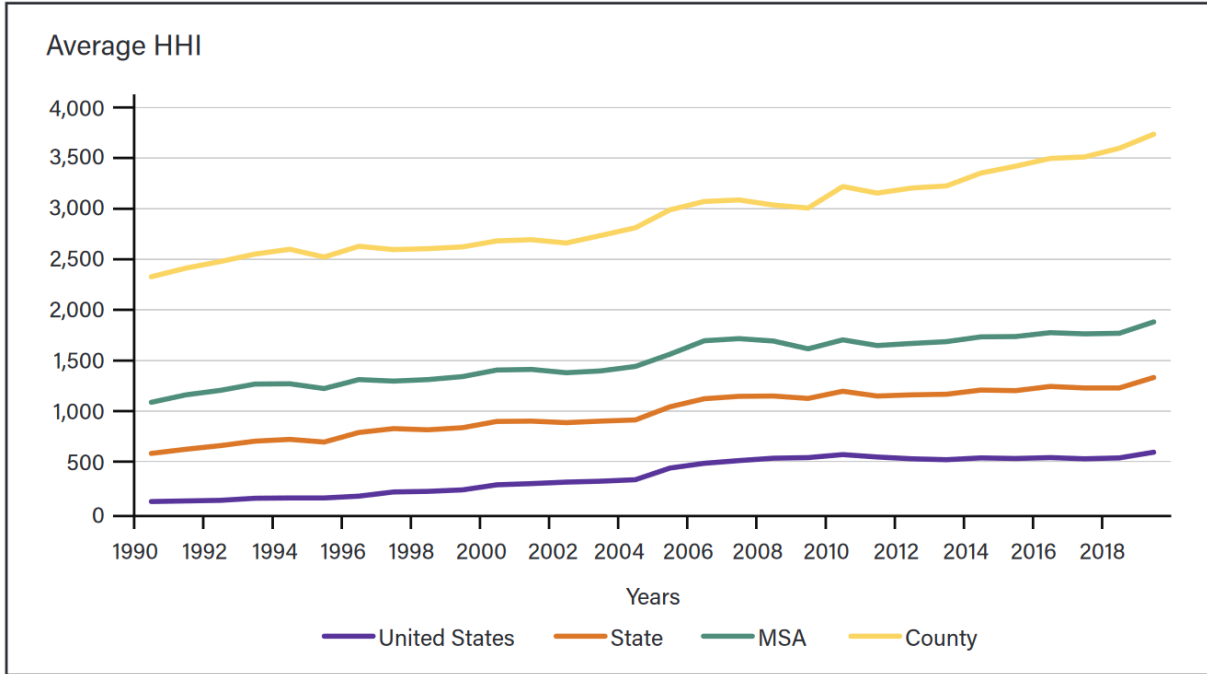


Notes: CR4 = top 4; CR8 = top 8; CR20 = top 20. Food sales are estimated based on the sales per employee ratio calculated by the number of employees and the North American Industry Classification System (NAICS) code. NAICS included: 445110 (supermarkets and other grocery, except convenience) stores) and 452311 (warehouse clubs and supercenters). Food sales are calculated using the U.S Bureau of the Census' Economic Census product lines statistics on the percentage of sales of food.

Source: USDA, Economic Research Service, using data from the National Establishment Time Series (NETS).

Figure 2

Figure 2
The Herfindahl-Hirschman Index for national-, State-, MSA-, and county-level markets between 1990 and 2019

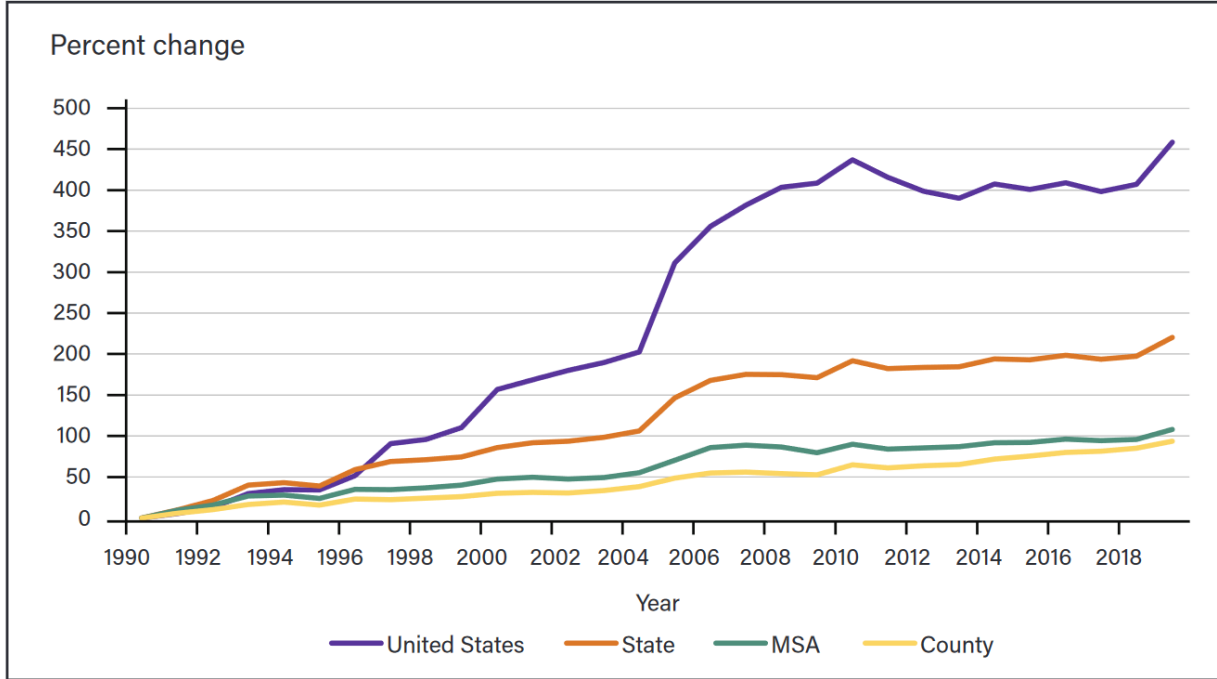


Notes: HHI = Herfindahl-Hirschman Index. MSA = Metropolitan Statistical Area. Food sales are estimated based on the sales per employee ratio calculated by firm size and the North American Industry Classification System (NAICS) code. NAICS included: 445110 (supermarkets and other grocery (except convenience) stores) and 452311 (warehouse clubs and supercenters). Food sales are calculated using the U.S Bureau of the Census' Economic Census product lines statistics on the percentage of sales on food.

Source: USDA, Economic Research Service, using data from the National Establishment Time Series (NETS).

Figure 3

Figure 4
Percentage change in Herfindahl-Hirschman Index for national-, State-, MSA-, and county-level markets between 1990 and 2019



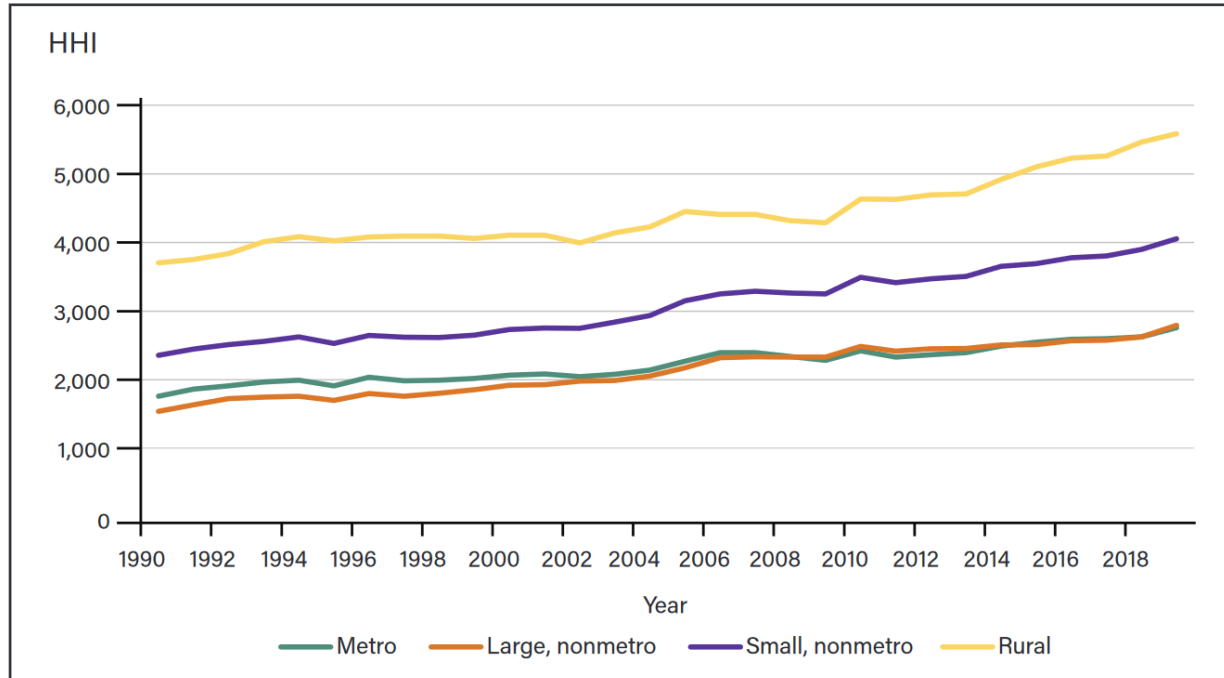
Notes: HHI = Herfindahl-Hirschman Index. MSA = Metropolitan Statistical Area. Food sales are estimated based on the sales per employee ratio calculated by firm size and the North American Industry Classification System (NAICS) code. NAICS included: 445110 (supermarkets and other grocery (except convenience) stores) and 452311 (warehouse clubs and supercenters). Food sales are calculated using the U.S Bureau of the Census' Economic Census product lines statistics on the percentage of sales on food.

Source: USDA, Economic Research Service, using data from the National Establishment Time Series (NETS).

Figure 4

Figure 7

The Herfindahl-Hirschman Index for metro, large nonmetro, small nonmetro, and small county-level markets between 1990 and 2019



Notes: HHI = Herfindahl-Hirschman Index. Food sales are estimated based on the sales per employee ratio calculated by firm size and the North American Industry Classification System (NAICS) code. NAICS included: 445110 (supermarkets and other grocery (except convenience) stores) and 452311 (warehouse clubs and supercenters). Food sales are calculated using the U.S Bureau of the Census' Economic Census product lines statistics on the percentage of sales of food.

Source: USDA, Economic Research Service, using data from the National Establishment Time Series (NETS).

All four figures are pulled from the following source: Zeballos, E., Dong, X., & Islamaj, E. (2023, November). A Disaggregated View of Market Concentration in the Food Retail Industry. Economic Research Service. <https://www.ers.usda.gov/webdocs/publications/105558/err-314.pdf?v=9287.4>

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