The Anticompetitive Effects of the Proposed JBS-Cargill Pork Packing Acquisition

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I. Introduction

The proposed acquisition of Cargill Pork (Cargill) by JBS S.A. (JBS) would significantly reduce competition in the hog processing and slaughter industry, disadvantaging hog producers, wholesale pork buyers and, ultimately, consumers. The scale and scope of the proposed acquisition warrant substantial scrutiny by the U.S. Department of Justice.

JBS and Cargill are already two of the largest meatpackers in the United States and globally. In the United States, the combined firms sold $59 billion worth of meat products in 2014 making them the second and third largest meat processing firms behind Tyson Foods.[1] Brazil-based JBS is the world's largest meat company and the second largest beef packer, second largest poultry processor and third largest pork packer in the United States.[2] Cargill is the largest privately held company in the United States and the third largest meat processor in the United States.[3] The proposed acquisition also would mean that the top two pork packing firms — Smithfield and JBS — are controlled by foreign companies.[4]

The proposed $1.45 billion acquisition would join the third and fourth largest pork packing companies and the post-acquisition JBS would surpass Tyson Foods to become the second largest hog processor in the country behind Smithfield.[5] It also would create a considerably more vertically integrated JBS. The deal includes Cargill's two pork slaughter and processing plants (located in Ottumwa, Iowa and Beardstown, Illinois), five feed mills (located in Missouri, Arkansas, Iowa, and Texas), along with four hog production facilities (located in Arkansas, Oklahoma, and Texas).[6] Cargill's hog production facilities were the eighth largest in the country in 2014, with 161,000 sows.[7]

The merger extends JBS' long-term effort to become the dominant protein company in each market. The company has grown into the largest meat processor in the world primarily through large acquisitions. JBS has "a very aggressive growth strategy" and growth through acquisitions is "in [the company's] DNA."[8] The proposed Cargill acquisition represents "a strategic investment in the long-term growth of [JBS'] domestic and global pork business and demonstrates [the company's] commitment to the U.S. livestock sector."[9]

The proposed merger would enable JBS to grow to become a more dominant and more vertically integrated meat manufacturer and violates the Clayton Act's prohibition against mergers that may "substantially to

[1] "National Provisioner's Top 100." *National Provisioner*. May 2015 at 30.

[2] "JBS to purchase U.S. Cargill pork assets for $1.45 billion." *Reuters*. July 1, 2015; Magalhaes, Luciana. "With Cargill purchase, Brazil's JBS poised to become No. 2 pork producer in U.S." *Wall Street Journal*. July 2, 2015; "2014 top poultry companies." *Watt Poultry USA*. March 2014 at 18.

[3] Murphy, Andrea. "Top 20 largest private companies of 2014." *Forbes*. November 5, 2014; Clyma, Kimberlie. "Leaders of the pack." *Meat and Poultry*. March 2015 at 16, 22.

[4] In 2013, Smithfield was purchased by Shuanghui International Holdings Ltd. (now WH Group) for $4.7 billion. Tadena, Nathalie. "Smithfield Shareholders approve Shuanghui deal." *Wall Street Journal*. September 24, 2013.

[5] JBS USA. [Press release]. "JBS USA Pork agrees to purchase Cargill pork business." July 1, 2015; Magalhaes (2015); National Pork Board. "Pork Stats 2014." 2014 at 22.

[6] JBS USA (2015).

[7] "Top 25 Pork Powerhouses." *Successful Farming*. 2015.

[8] Runyon, Luke. "Inside the world's largest food company you've never heard of." *KUNC Community Radio for Northern Colorado*. June 26, 2015; Blankfield, Keren. "JBS: the story behind the world's biggest meat producer." *Forbes*. April 21, 2011.

[9] Gylan, Georgi. "JBS to make further acquisition with Cargill pork business." *Global Meat News*. July 2, 2015.

lessen competition, or tend to create a monopoly."[10] The proposed merger runs afoul of the U.S. Department of Justice's merger guidance stating "[m]ergers should not be permitted to create, enhance, or entrench market power or to facilitate its exercise."[11]

Rapid consolidation in the food and agriculture sectors has been of rising concern to farmers, consumers and federal regulators. Since the economy began to recover from the recession, the pace of mergers has accelerated and threatens to increase concentration in the already over-consolidated food and agriculture sectors. In 2014, there were more than more than 300 food and beverage mergers and acquisitions valued over $120 billion.[12] The proposed acquisition contributes to the growing size and market power of the top meat and poultry processors that has had tremendous ripple effects across the food chain. Mergers and acquisitions in one portion of the food chain are used to justify reverberating mergers up and down the agribusiness, food manufacturing and retailing sectors.

Only robust antitrust enforcement can protect consumers and farmers from anticompetitive combinations and practices. A May 2012 Department of Justice report "stressed the importance of vigorous antitrust enforcement" and detailed the ways that anticompetitive mergers and conduct can harm farmers, consumers and others.[13]

As President Barack Obama observed in his 2013 Inaugural Address "a free market only thrives when there are rules to ensure competition and fair play."[14]

The proposed acquisition creates a substantially more concentrated hog slaughter market and would give JBS-Cargill the capacity and incentive to profitably exert this market power over its rivals, farmers and consumers. It would significantly increase the company's buyer power over farmers, both nationally and in the Midwest regions surrounding each facility (Section II). It would increase the anticompetitive vertical integration in the industry, reducing options for farmers selling hogs on the open market, delivering hogs under contract or raising hogs under production contracts (Section III). It would also further concentrate the market for wholesale pork products, raising prices for retailers, further processing companies and foodservice outlets (Section IV). Ultimately these price increases would be passed onto consumers at the grocery store (Section V). The combined increase in monopsony market power over hog producers and the increase in monopoly market power over consumers acts as a transfer of economic welfare from both farmers and eaters to what would become the second largest pork packer in the United States.

The Department of Justice must oppose the early termination of the antitrust review and issue a second request under the Hart-Scott-Rodino Act to fully examine the anticompetitive and anti-consumer impacts of the proposed acquisition.[15] We believe the Department of Justice should ultimately enjoin this merger.

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[10] 15 U.S.C. §18.

[11] U.S. Department of Justice/Federal Trade Commission (DoJ/FTC). "Horizontal Merger Guidelines." August 19, 2010 at 2.

[12] Harris Williams & Co. "Food and Beverage Industry Update." January 2015 at 11; de la Merced, Michael. "Deal makers notched nearly $3.5 trillion worth in '14, best in 7 years." *New York Times*. January 1, 2015.

[13] U.S. Department of Justice. "Competition and Agriculture: Voices from the Workshops on Agriculture and Antitrust Enforcement in our 21st Century Economy." May 2012 at 2.

[14] President Barack Obama. 2013 Inaugural Address. January 21, 2013.

[15] 15 U.S.C. §18(e).

II. Proposed Acquisition Would Exacerbate Buyer Power Over Hog Farmers

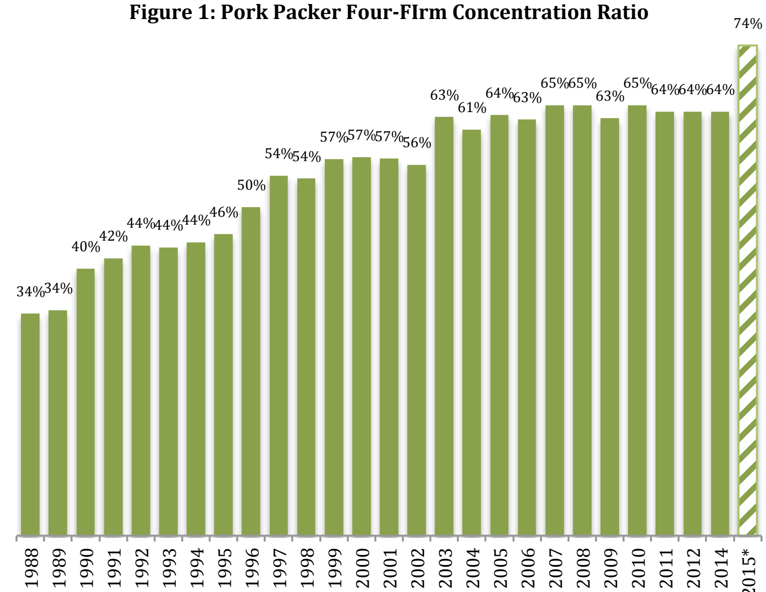
The proposed acquisition would increase the buyer power concentration over hog farmers in an already consolidated hog slaughter and processing sector. Over the past few decades, the U.S. pork packing and processing industry has gained a dominant position over hog farmers through mergers, acquisitions and the emergence of contractual relationships between packers and producers. The appropriate market to measure pork packer buyer power is live slaughter hogs (gilts and barrows) within the appropriate regional markets encompassing captive draw areas (*see* below for analyses of several regions of concern).

Competition among processors is critical for the thousands of farmers trying to earn a living selling their hogs. In 2013, 111 million hogs were purchased at a cost of over $20 billion.[16] In 2014, commercial hog slaughter was 106.9 million head.[17] 28.6 million of them were in Iowa alone.

The hog production sector is horizontally concentrated (only a few companies buy, slaughter and process the majority of hogs) and vertically integrated (pork packers have tight contractual relationships with hog producers throughout all stages of production). Meatpacking "concentration levels are among the highest of any industry in the United States, and well above levels generally considered to elicit non-competitive behavior and result in adverse economic performance," according to Oklahoma State University professor Clement Ward.[18] This horizontal consolidation and vertical integration in the pork packing industry has contributed significantly to the decline in the number of hog farms. The United States has lost 150,000 hog operations — about 70 percent — between 1993 and 2012.[19]

National concentration in the hog slaughter industry has nearly doubled over the past three decades as mergers significantly reduced the number of competitors and increased market concentration.[20] In 1982, the four largest firms slaughtered one out of three hogs (35.8 percent) nationally. By

Figure 1: Pork Packer Four-FIrm Concentration Ratio



Source: USDA GIPSA, National Pork Board; 2015 accounts for proposed JBS-Cargill acquisition

16 National Pork Producers Council. "The importance of trade to U.S. agriculture." Testimony before the Agriculture Committee. United States House of Representatives. March 18, 2015 at 2.

17 U.S. Department of Agriculture (USDA). National Agricultural Statistical Service (NASS). "Livestock Slaughter 2014 Summary." April 2015 at 6, 45.

18 Ward, Clement E. "A review of causes for and consequences of economic concentration in the U.S. meatpacking industry." *Current*. No. 3. 2002 at 1.

19 USDA NASS. "Hogs—Operations with Inventory." Available at quickstats.nass.usda.gov, accessed July 2014.

20 Ward (2002) at 5.

Table 1: National Pork Packing Concentration

	Slaughter Capacity (head/day)				Market Share				Post-Merger Change	
Company	2012	2013	2014	Post-JBS-Cargill	2012	2013	2014	Post-JBS-Cargill	Δ	% Change
Smithfield	114,400	117,000	118,500	118,500	27.0%	27.2%	27.4%	27.4%		
Tyson Foods	76,775	76,925	76,925	76,925	18.1%	17.9%	17.8%	17.8%		
JBS-Swift	47,000	50,000	50,000	87,800	11.1%	11.6%	11.6%	20.3%	8.7%	75.6%
Cargill Pork	37,800	37,800	37,800		8.9%	8.8%	8.7%			
Hormel	37,300	37,300	36,800	36,800	8.8%	8.7%	8.5%	8.5%		
CR-4					65.2%	65.5%	65.5%	74.0%	8.5%	13.0%
HHI-4					1,261	1,272	1,277	1,552	275	21.5%
HHI-All					1,412	1,418	1,422	1,624	202	14.2%

Source: Analysis of National Pork Board data.

2014 that figure nearly doubled, as the four biggest companies slaughtered two out of three hogs (65.5 percent) (*see* Figure 1).[21] Since the 1990s, Smithfield Foods, the nation's largest pork processor, absorbed competitors including John Morrell, Premium Standard Farms and Farmland, which had facilities and operations throughout the Midwest.[22] In 2001, Tyson Foods bought IBP, which had four hog packing plants in Iowa.[23]

The proposed acquisition would significantly increase the national concentration in pork packing. If the proposed acquisition were approved, the top four pork packers would slaughter three out of four hogs (74.0 percent), a 13.0 percent increase (*see* Table 1). The proposed acquisition would represent the largest increase in pork packer concentration in the past 25 years, significantly larger than when Smithfield purchased Farmland in 2003.[24]

The proposed acquisition would create a moderately concentrated national hog packer market, with a Herfindahl-Hirschman Index (HHI) increase over 200 with a national HHI of over 1,600 that "potentially raise[s] significant competitive concerns [that] often warrant scrutiny."[25] The proposed acquisition would make the three largest pork packers much closer in size and considerably larger than the next largest packers. Prior to the proposed deal, JBS and Cargill were only slightly larger than the next largest rival, Hormel (with 11.6, 8.7 and 8.5 percent of the national slaughter capacity, respectively). After the proposed deal, JBS-Cargill would be twice as large as Hormel and about four times larger than the fifth and sixth largest firms (Triumph and Seaboard, each with under 5 percent of the national slaughter capacity).

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[21] USDA. Grain Inspection, Packers and Stockyards Administration. "Packers and Stockyards Statistical Report: 1997 Reporting Year." GIPSA SR-99-1. June 1999 at Table 31; USDA GIPSA. "2013 Annual Report Packers and Stockyards Program." March 2014 at Table 14 at 31; National Pork Board (2014) at 22.

[22] Smithfield Foods. SEC Form 10-K. August 2, 1999 at 2; Smithfield Foods. Annual Report 2004. 2004 at 6; National Pork Board (2009–2012) at 96.

[23] Tyson Foods. 2001 Annual Report. 2001 at 22; National Pork Board. "Pork Quick Facts." 2012 at 96.

[24] The proposed acquisition increases the four-firm concentration ratio by 10 percentage points, a nearly 16 percent relative increase. The 2003 Smithfield-Farmland merger was associated with a 7 percentage point increase in the four-firm concentration ratio, a relative increase of 13 percent. John Morrell. [Press release]. "John Morrell president urges Senators to clear Smithfield-Farmland Foods transaction." July 23, 2003.

[25] DoJ/FTC (2010) at 19.

A. Buyer power extracts value from farmers

The proposed acquisition would substantially strengthen monopsony buyer power and enable JBS-Cargill to exercise unilateral and coordinated market power to depress hog prices paid to producers and farmers. The rising concentration in the pork packing industry increases buyer power significantly and gives firms more leverage over farmer suppliers. This power dynamic allows processors to exercise considerable control over farmers, lower the prices they pay for hogs and more easily collude with other packers, either tacitly or expressly.

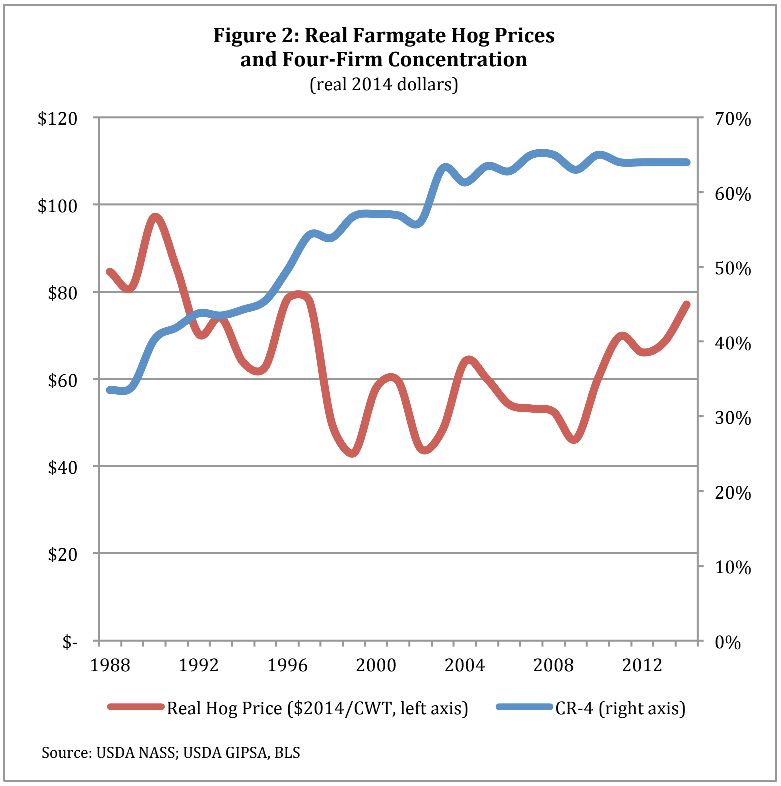
Pork packers and processors are the gatekeepers of the hog and pork sector. These firms can source hogs from thousands of different farmers but the farmers sell most of their hogs to only a handful of firms. Farmers generally sell all their marketable hogs to one buyer, which gives pork packers tremendous bargaining power over farmers.[26] The decline in the number of hog buyers has left fewer selling options for hog producers, which puts them under increased pressure to take whatever price they can get, even if it does not cover their costs.

Consolidation has made it easier for pork packers to tacitly collude to drive down prices. All pork packers benefit when the prices they pay to producers are low, so there is little incentive to compete by bidding up prices and every incentive to exercise tacit coordinated market power. Buyers can withhold or lower their offers for hogs with little fear of competitors trying to pay more for the product.[27] In some cases, there is only one buyer at hog auctions as a result of market consolidation. Consolidation also gives the pork packers a significant informational advantage over farmers because they regularly purchase large volumes of hogs and are more knowledgeable about prevailing market conditions.[28] In 1990, when pork packer concentration levels were only half what they are today, a study found that the hog packing sector exhibited market buyer power that was "not statistically different from a collusive oligopsony."[29]

The perishability of most agricultural products significantly exacerbates the impact of market concentration and gives buyers unique leverage over farmers.[30] Buyers can impose lower prices or unfavorable terms on farmers who must sell perishable products.[31] Finished livestock are only at their ideal slaughter weight for a few weeks.[32] Market hogs are slaughtered at an ideal weight of 265 pounds.[33] If farmers cannot find decent prices for their hogs when they reach market weight, they must choose between bearing the cost of overfeeding their hogs while they search for alternate buyers and/or receiving less favorable prices.

[26] Carstensen, Peter C. University of Wisconsin Law School. Statement Prepared for the Workshop on Merger Enforcement. February 17, 2004 at 13.
[27] *Ibid*. at 4.

[28] Schroeder, Ted C. and James Mintert. "Market Hog Price Discovery: Barriers and Opportunities." Paper presented at the National Pork Producers Council's National Pork Summit. Kansas City, Missouri. December 10, 1999 at 3.
[29] Azzam, A.M. and E. Pagoulatos. "Testing oligopolistic and oligopsonistic behavior: An application to the U.S. meat-packing industry." *Journal of Agricultural Economics*. Vol. 41, Iss. 3. 1990 at 368.
[30] Domina, David and C. Robert Taylor. Organization for Competitive Markets. "The Debilitating Effects of Concentration in Markets Affecting Agriculture." September 2009 at 8.
[31] Carstensen (2004) at 22.
[32] Taylor, C. Robert. Auburn University. "The Many Faces of Power in the Food System." Presentation at the DoJ/FTC Workshop on Merger Enforcement. February 17, 2004 at 3.
[33] USDA Agricultural Marketing Service. "2012 Annual Meat Trade Review." 2012 at 3.



Buyer power is similar to seller power, but the power dynamics between pork packers buying hogs is different from the monopolistic power exerted by food companies on retail consumers. Buyers have different market incentives and operate in different marketplaces, and the limitations on buyer-side competition can be different than for sellers.[34] Consolidated buyer markets and large single-firm buyer market shares can be more distorting and anticompetitive than seller markets.

Buyers can exert more market power over their suppliers with a smaller share of the purchasing market than sellers can exercise. Buyers can potentially exert unilateral dominance over suppliers with control of less than ten percent of the purchasing market.[35] JBS and Cargill held about 10 percent of the national hog market before the proposed merger (11.6 and 8.7 percent, respectively), but the proposed acquisition would give JBS-Cargill more than one-fifth of the national hog market (20.3 percent), giving the post-merger firm considerably more leverage over hog farmers and capacity to disadvantage farmers in price negotiations and contracts.

Mergers and acquisitions have made the remaining pork packers significantly larger and helped to drive medium-sized firms out of business. Since 2003, six hog slaughter plants closed in the Midwest, reducing the total daily market for hogs by 22,500 head — the equivalent of eliminating Triumph Foods.[36] This consolidation has reduced options and prices for farmers. A 1999 economic model by Purdue University estimated that a marketplace with 20 equally sized pork packers (akin to the national market in the late 1980s) would pay about 5 percent less than a perfectly competitive marketplace; a marketplace with eight firms would pay 18 percent less; and if there were only four firms, they would pay 28 percent less than a perfectly competitive market.[37] The authors concluded, "We have shown that greater consolidation in the meat packing and processing industry creates a markdown effect on the prices farmers receive for live animals."[38]

[34] Carstensen (2004) at 3.
[35] Foer, Albert A. American Antitrust Institute. "Mr. Magoo Visits Wal-Mart: Finding the Right Lens for Antitrust." Working Paper No. 06-07. November 30, 2006 at 5.
[36] National Pork Board. "Pork Facts." 2013 at 101.
[37] Paarlberg, Philip et al. Department of Agricultural Economics, Purdue University. "Structural Change and Market Performance in Agriculture: Critical Issues and Concerns About Concentration in the Pork Industry." Staff Paper 99-14. October 1999 at 6 to 7.
[38] *Ibid*. at 8.

As market concentration has increased, the real price farmers receive for their hogs has declined (*see* Figure 2). Between 1988 and 2012, the market share of the top four pork packers nearly doubled from 34 percent to 64 percent.[39] Over the same period, real farmgate hog prices fell by about one-fifth (18 percent), from $84 per hundredweight in the period 1988 to 1992 to $68 per hundredweight between 2010 and 2014 (measured in inflation adjusted 2014 dollars).[40] The proposed acquisition would only worsen this trend by strengthening JBS-Cargill's overall leverage over hog farmers and strengthening its unilateral and coordinated market power to push down on hog prices. Even if the proposed acquisition contributed to small but significant reductions in the price farmers receive for hogs, it could have a significant impact on whether hog producers are economically viable or are forced to exit farming.[41]

Farmers would be largely unable to avoid these price cuts. The livelihood of hog farmers depends on their ability to sell their hogs to buyers offering the best prices that enable them to pay for all of the costs that they incur, including production and transportation.[42] Hog farming requires significant investment, infrastructure, and time considerations that are unique to those animals. Hog farmers cannot easily switch to another animal type or a commodity crop in order to avoid a small farmgate price decrease.

Nor would it be likely that new pork packers would enter the market to capitalize on JBS-Cargill's exercise of market power by paying slightly more for hogs or charging slightly less for pork. New entry into pork processing is costly and time consuming. Construction of a large-scale slaughter facility would take hundreds of millions of dollars and the additional planning, design and permitting costs are substantial. A recent expansion of Cargill's Ottumwa facility alone cost the company $25 million.[43] Building a facility from scratch would likely be considerably more, and if a firm wanted to enter the market through purchasing an already completed facility, this current acquisition shows how much that can potentially cost. As the Department of Justice noted in its complaint against the Cargill-Continental grain merger, these factors make it unlikely that the "exercise of market power will be prevented by new entry […] or by any other countervailing competitive force."[44]

B. Midwestern hog-buying geographic market

National concentration measurements can conceal much higher market concentration that farmers face at the regional or local level.[45] Mergers can increase market power in regional markets where the merged firm can extract even minor price concessions

[39] USDA GIPSA. "Packers and Stockyards Statistical Report: 1996 Reporting Year." SR-98-0. October 1998 at 48; USDA GIPSA. "Packers and Stockyards Statistical Report: 1995 Reporting Year." SR-97-1. 1997 at Table 31; USDA GIPSA. "Packers and Stockyards Annual Report 2010." 2010 at 45; USDA GIPSA. "Statistical Report 2002." 2002 at Table 30; USDA GIPSA. "Packers and Stockyards Annual Report 2013." 2013 at 31.

[40] USDA NASS. Quickstats. "Hogs—Price Received, Measured in $/CWT." Available at quickstats.nass.usda.gov, accessed July 2015; Real dollar deflator calculated with U.S. Department of Labor, Bureau of Labor Statistics. CPI Inflation Calculator. Available at bls.gov/data/inflation_calculator.htm, accessed July 2015.

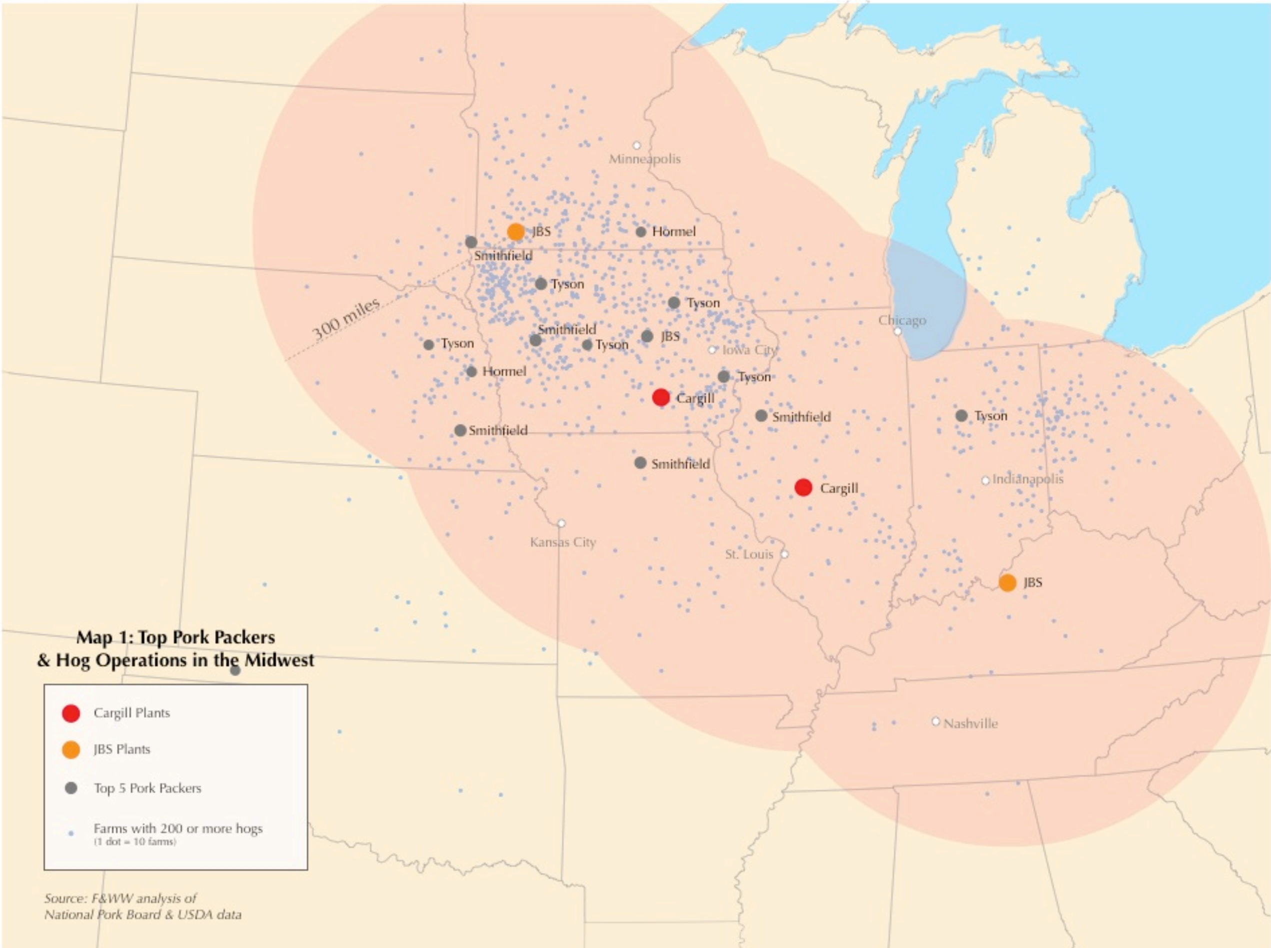
[41] Ward (2002) at 2 and 19.

[42] *See* Complaint at 6. U.S. v. Cargill, Inc. and Continental Grain Co. (D.D.C. 1999) (No. 99-1875).

[43] Cargill. [Press release]. "Cargill $29 million Hedrick, Iowa, pork business feed mill dedication set for May 12." May 4, 2012.

[44] *See* Complaint at 12. U.S. v. Cargill, Inc. and Continental Grain Co. (D.D.C. 1999) (No. 99-1875).

[45] MacDonald, James M. and William D. McBride. USDA Economic Research Service (ERS). "The Transformation of U.S. Livestock Agriculture: Scale, Efficiency, and Risks." EIB-43. January 2009 at 25.



that sellers cannot avoid.[46] Pork packing plants are generally located near hog production areas to reduce livestock transportation costs from the farm to the slaughterhouse.[47] The majority of U.S. hogs are produced in the Midwestern corn belt, where transportation costs and access to corn and soymeal feed ingredients is the lowest.[48]

The proposed JBS-Cargill acquisition includes five pork packing plants, a JBS plant and a Cargill plant in Iowa, a JBS plant in Minnesota, a Cargill plant in Illinois and a JBS plant in Kentucky, spanning the hog producing region from Indiana to Minnesota, Nebraska and Missouri (*see* Map 1).[49] The transportation cost and hog weight "shrinkage" limit the distance that hogs can be transported in order to reach a potential competing buyer's processing facility.[50] Hogs are shipped on average 113 miles from

[46] U.S. v. Cargill (2000) at 19.
[47] Muth, Mary K. et al. RTI International. "Pork Slaughter and Processing Sector Facility-Level Model." Prepared for USDA, Food Safety and Inspection Service. Contract No. 53-3A94-02-12. June 2007 at 2–2.
[48] RTI International. Prepared for USDA GIPSA. "GIPSA Livestock and Meat Marketing Study: Volume 1: Executive Summary and Overview – Final Report." January 2007 at 1–4.

[49] National Pork Board (2013) at 100; USDA NASS. 2012 Census of Agriculture Atlas Maps. "Number of Farms with 200 or More Hogs and Pigs: 2012." 2014 at Map 12-M150.
[50] *See* Complaint at 7. U.S. v. JBS. S.A. and National Beef Packing Co., LLC. (N.D. Ill. 2008) (No. 08-CV-05992).

Table 2: Midwestern Hog Belt—Farms and Hog Sales

State	Hog Farms	State Farm Rank	% of Farms	Hog Sales (head)	State Sales Rank	% of Sales
Iowa	6,616	1	11.8%	49,355,848	1	24.8%
Minnesota	3,420	3	6.1%	22,154,443	3	11.1%
Illinois	2,019	4	3.6%	13,121,384	4	6.6%
Nebraska	1,552	5	2.8%	10,620,451	5	5.3%
Indiana	2,823	6	5.1%	10,551,241	6	5.3%
Missouri	1,852	7	3.3%	9,727,491	7	4.9%
Ohio	3,372	9	6.0%	6,693,226	9	3.4%
South Dakota	678	12	1.2%	3,914,312	12	2.0%
Michigan	2,150	13	3.8%	3,598,475	13	1.8%
Wisconsin	2,210	19	4.0%	934,000	19	0.5%
Kentucky	866	20	1.5%	933,620	20	0.5%
Midwestern Total	27,558		49.20%	131,604,491		66.2%

Source: USDA NASS 2012 Census of Agriculture.

farm to slaughterhouse, with a standard deviation of 96 miles.[51] Almost all hogs would be shipped within two standard deviations of the average, or about 300 miles.[52] The appropriate geographic markets to evaluate the proposed JBS-Cargill acquisition are the markets delineated by the overlapping draw areas of the JBS and Cargill pork packing plants.

In the overlapping 300-mile "draw areas" for the JBS and Cargill facilities, these facilities are two of a small number of competing pork processing plants. By acquiring Cargill's facilities in these captive draw areas, JBS would be in a position to unilaterally, or in coordination with the few remaining competitors, depress prices paid to hog farmers because transportation costs would preclude producers from selling to more distant buyers outside the captive draw areas in sufficient quantities to prevent the price decrease.[53]

The JBS and Cargill plants compete to source hogs with other large slaughter plants within this 300-mile draw. This area includes the major pork packers in Illinois, Indiana, Iowa, Minnesota, Missouri, Nebraska and South Dakota. This Midwestern region encompasses the buyer market for hogs for the proposed acquisition based on locations of the suppliers (hog farmers), transportation limitations and competitive landscape for hog purchases.[54]

There are essentially two broad draw areas within this Midwestern hog and corn belt, the western draw of Iowa and surrounding states and the eastern draw of Illinois and Indiana and the surrounding states. These states represent half of the hog farms (49.2 percent) and two-thirds of the hog sales (66.2 percent) in the United States (*see* Table 2).[55] The proposed acquisition reduces the options for the nearly 28,000 hog producers in both regions, substantially increases horizontal concentration and increases the monopsony buyer power of pork packers, giving them more market power to depress the prices farmers receive for their hogs. In this analysis, we examine the Iowa pork packing market, the Iowa and surrounding states market and the Illinois-Indiana and surrounding states market.

[51] RTI International (2007) at 2–48.
[52] A 300-mile draw is also in line with the typical transportation distance to market beef cattle. *See* Sexton, Richard J. Department of Agricultural and Resource Economics, University of California Davis. "Industrialization and Consolidation in the U.S. Food Sector: Implications for Competition and Welfare." Waugh Lecture, Agricultural & Applied Economics Association Annual Meeting, Tampa, Florida. August 2, 2000 at 21.
[53] *See* Complaint at 8 and 12. U.S. v. Cargill, Inc. and Continental Grain Co. (D.D.C. 1999) (No. 99-1875).
[54] DoJ/FTC (2010) at 13 to 14.
[55] USDA NASS. 2012 Census of Agriculture data.

Table 3: Pork Packing Concentration in Iowa

	Slaughter Capacity (head/day)				Market Share				Post Merger Change	
Company	2012	2013	2014	Post JBS-Cargill	2012	2013	2014	Post JBS-Cargill	Δ	% Change
Tyson Foods	53,600	53,700	53,700	53,700	48.9%	48.1%	48.1%	48.1%		
JBS-Swift	18,500	20,000	20,000	38,400	16.9%	17.9%	17.9%	34.4%	16.5%	92.0%
Cargill Pork	18,400	18,400	18,400		16.8%	16.5%	16.5%			
Smithfield	9,400	9,400	9,400	9,400	8.6%	8.4%	8.4%	8.4%		
Sioux-Preme Packing	4,500	4,500	4,500	4,500	4.1%	4.0%	4.0%	4.0%		
CR-4					91.1%	90.9%	90.9%	94.9%	4.0%	4.4%
HHI-4					3,032	2,974	2,974	3,267	293	9.9%
HHI-All					3,057	3,000	3,000	3,278	277	9.2%

Source: Analysis of National Pork Board data.

These are imprecise but reasonable proxies for the changes to the hog slaughter markets that hog farmers would face under the proposed JBS-Cargill acquisition.

1) Iowa hog buying market

The Iowa pork packing market is already tremendously concentrated. Although 8 pork packing companies operate 11 plants in Iowa, the top four Iowa companies have slaughtered more than 9 out of 10 hogs for the past several years (*see* Table 3). This level of market concentration and the market shares of the top four firms have been fairly stable for almost a decade, suggesting that the market may already lack competition.[56] Most of the changes in the concentration levels have related to market exits and, more rarely, entrants,[57] not the vibrancy of competition between the major packers. Iowa ranks number one in hog farms and sales, accounting for one-eighth of the nations hog operations and one-quarter of hog sales.[58] For hog farmers in the central part of the Iowa, they are most likely to sell or deliver their hogs to Iowa-based pork packing plants.

The proposed acquisition significantly increases concentration. Iowa's pork packing is already highly concentrated, with an HHI of 3,000. The combination of JBS and Cargill would essentially double the capacity of JBS' pork packing operations and make it 4 times larger than the third largest firm (Smithfield), more than 8 times larger than the fourth largest firm (Sioux-Preme Packing), 12 times larger than the fifth largest firm, 25 times larger than the sixth and 32 times larger than the smallest firm. The proposed acquisition would increase the HHI by 277 to 3,278. The Department of Justice Horizontal Merger Guidelines state that mergers resulting in highly concentrated markets with HHI increases over 200 points are "presumed to be likely to enhance market power."[59]

2) Iowa and surrounding states hog buying market

The pork packing market for Iowa and surrounding states (Illinois, Minnesota, Missouri, Nebraska and South Dakota) is moderately concentrated with 15 firms and 26 plants, but the top four firms slaughtered three out of four hogs over the past several

56 DoJ/FTC (2010) at 18.
57 National Pork Board (2013) at 101.
58 USDA NASS. 2012 Census of Agriculture data.

59 DoJ/FTC (2010) at 19.

years. The smallest 9 firms (each with only one plant) slaughtered only 6.7 percent of the hogs in 2014. In 2014, the pork packing concentration for Iowa and surrounding states had an HHI of 1,648, making it moderately concentrated (*see* Table 4).

The proposed acquisition would substantially increase concentration in the region, increasing the HHI by more than 400 points to an HHI of 2,066, making the pork packing industry 25 percent more concentrated. The Horizontal Merger Guidelines suggest that mergers resulting in moderately concentrated markets that increase HHI by more than 100 points "potentially raise significant competitive concerns and often warrant scrutiny."[60]

The proposed acquisition would double the slaughter capacity of JBS, making it the largest pork packer in the five-state region, slaughtering more than one-quarter of the hogs (28.9 percent) and JBS-Cargill would be substantially larger than almost other firms in the region. In Iowa and surrounding states, the post-acquisition JBS-Cargill would be more than 25 percent larger than both Tyson and Smithfield, the top two pork packers nationally, but it would also dwarf all other competitors (*see* Table 5). It would be 3 times larger than Hormel, the fourth largest firm nationally and regionally after the proposed acquisition, and 4 times larger than Triumph Foods, the fifth largest firm. It would be 16 times larger than the sixth largest, 17 times larger than the seventh largest and more than 50 times larger than the six smallest firms.

The significant size of the gap between the post-acquisition JBS-Cargill and most of the rest of the marketplace suggests that the remaining market participants will be unable to provide sufficient competition.[61] The post-acquisition JBS-Cargill and the top two national firms would dominate the market and all would be many-fold larger than even the other largest national rivals operating in Iowa and surrounding states. This would make it easier for these three buyers to exercise coordinated market power that would disadvantage hog producers. Auction buyers would likely tacitly collude on prices through strategies including sharing buying agents, avoiding competitive bidding and withholding spot market purchases when prices are high. For example, since hog

Table 4: Pork Packing Concentration in Iowa and Surrounding States

	Slaughter Capacity (head/day)				Market Share				Post Merger Change	
Company	2012	2013	2014	Post JBS-Cargill	2012	2013	2014	Post JBS-Cargill	Δ	% Change
Tyson Foods	61,475	61,625	61,625	61,625	23.4%	22.9%	22.9%	22.9%		
Smithfield	59,600	62,000	61,000	61,000	22.7%	23.1%	22.7%	22.7%		
JBS-Swift	37,000	40,000	40,000	77,800	14.1%	14.9%	14.9%	28.9%	14.1%	94.5%
Cargill Pork	37,800	37,800	37,800		14.4%	14.1%	14.1%			
Hormel	29,500	29,500	29,500	29,500	11.2%	11.0%	11.0%	11.0%		
CR-4					74.7%	74.9%	74.5%	85.5%	11.0%	14.7%
HHI-4					1,473	1,475	1,458	1,997	538	36.9%
HHI-All					1,665	1,659	1,648	2,066	418	25.4%

Source: Analysis of National Pork Board data.

60 DoJ/FTC (2010) at 19.

61 *Ibid*. at 18.

Table 5: Post-Merger JBS-Cargill Larger than Rivals

Post-Merger Firm Rank	Firm	JBS-Cargill Compared to Rivals
#2	Tyson Foods	+26%
#3	Smithfield	+28%
#4	Hormel	3 x
#5	Triumph Foods	4 x
#6	Rantoul Foods	16 x
#7	Sioux-Preme Packing	17 x
#8	Premium Iowa Pork	26 x
#9	Spectrum Meat	49 x
#10	Dakota Pork	52 x

Source: Analysis of National Pork Board data.

marketing contracts are often tied to the prevailing mid-morning upper Midwest market price, it is easier for a smaller number of pork packers to tacitly collude to withhold their purchases until the afternoon to drive down prices.[62] Afternoon bidding prices on this key reference market are more aggressive and hog prices tended to be higher, suggesting that pork packers are taking advantage of their coordinated market power to delay participating in the spot market to hold down prices paid under marketing and production contracts.[63]

3) Illinois-Indiana and surrounding states hog buying market

The pork packing market in Illinois, Indiana, and the surrounding states (Kentucky, Ohio, Michigan, Wisconsin, Missouri, and Iowa) has 18 firms and 26 plants, but the top four firms control almost three-quarters of the market, whereas the smallest 10 firms only slaughtered 10 percent of the hogs in the area in 2014. The HHI for the Illinois-Indiana region is 1687, making it moderately concentrated (*see* Table 6).

Post-acquisition, concentration in the Illinois-Indiana market would go up significantly. The HHI in the region would rise by almost 500 points to 2,122, increasing concentration by 25 percent, significantly above the 100-point increase that would warrant close scrutiny under the Horizontal Merger Guidelines. In central Indiana, Illinois, eastern Ohio, the proposed acquisition would reduce the number of major packers from four to three (*see* Map 1), leaving farmers with even fewer options than producers in the Iowa market.

C. Proposed acquisition raises anticompetitive concerns similar to mergers in which DOJ intervened

The proposed JBS-Cargill acquisition would increase anticompetitive monopsony buyer power sufficiently for the post-acquisition firm to exercise unilateral or coordinated market power over hog producers throughout the Midwest. The above regional analysis of Iowa and surrounding states and Illinois-Indiana and surrounding states understates the effects of concentration that farmers would face after the proposed acquisition. These multistate regions are imprecise and the appropriate measurement for farmers is 300 miles from their farm and each of these regions has multiple overlapping captive draw areas.

For example, hog producers in western Illinois-southeastern Iowa-northeastern Missouri would lose an important potential competitive buyer. Instead of two Smithfield plants and two Cargill plants, three Tyson plants, and one JBS plant, there would be three Tyson plants, three JBS-Cargill plants and two Smithfield plants. For producers in southeastern Illinois and central Indiana, farmers would go from three major competitors to two. The analysis of the Iowa state market likely comes closest to

[62] American Antitrust Institute's Transition Report on Competition Policy: Chapter 8 Food. 2008 at 294.
[63] Schroeder and Mintert (1999) at 14.

reflecting the impact of the proposed acquisition on farmers, with the proposed acquisition causing a substantial increase in concentration and creating a highly-concentrated hog buying market.

The proposed acquisition's expected result in highly-concentrated hog markets is comparable to several Department of Justice interventions to block mergers that increased buyer power over agricultural markets and farmers. In JBS's attempt to acquire National Beef, the market for the purchase of fed cattle in the High Plains region would have had an HHI increase of over 500 points to 2,600.[64] Additionally, in the wholesale boxed beef market, the acquisition would have also increased the HHI 500 points. In Tyson Foods' acquisition of Hillshire, the HHI for the purchase of sows from farmers would have increased by more than 500 points to 2,100. The changes in HHI and concentration in the Cargill-Continental merger also triggered scrutiny. In the Texas Gulf port market for wheat, the post-merger Cargill would have accounted for 34 percent of all wheat purchases in the region and lead to an HHI increase of 451 for a total HHI of 2,611. The Ardent flour milling joint venture for hard wheat in the Los Angeles market would have increased the HHI by more than 200 points to over 2,500.[65] These precedents warrant close scrutiny of the proposed acquisition and suggest that the Justice Department should enjoin the JBS-Cargill pork-packing merger.

Table 6: Pork Packing Concentration Illinois, Indiana and Surrounding States

	Slaughter Capacity (head/day)				Market Share				Post Merger Change	
Company	2012	2013	2014	Post JBS-Cargill	2012	2013	2014	Post JBS-Cargill	Δ	% Change
Tyson Foods	68,900	69,000	69,000	69,000	30.6%	30.2%	30.2%	30.2%		
Cargill Pork	37,800	37,800	37,800	67,800	16.8%	16.5%	16.5%	29.7%	13.1%	79.4%
Smithfield	30,200	31,100	30,100	30,100	13.4%	13.6%	13.2%	13.2%		
JBS-Swift	28,500	30,000	30,000		12.7%	13.1%	13.1%			
Triumph Foods	20,000	20,000	21,000	21,000	8.9%	8.8%	9.2%	9.2%		
CR-4					73.6%	73.5%	73.1%	82.3%	9.2%	12.6%
HHI-4					1,563	1,544	1,532	2,052	519	33.9%
HHI-All					1,713	1,691	1,687	2,122	435	25.8%

Source: Analysis of National Pork Board data.

[64] Complaint at 12. U.S. v. JBS. S.A. and National Beef Packing Co., LLC. (N.D. Ill. 2008) (No. 08-CV-05992).

[65] Complaint at 8. U.S. v. ConAgra Foods, Inc. et al. (D.D.C. 2014) (No. 14-CV-00823).

III. Proposed acquisition accelerates vertical integration, shift to production contracts at JBS

The proposed acquisition will intensify vertical integration and the use of production contracts in the hog sector, disadvantaging farmers. Mergers and acquisitions tend to lead to more vertical integration, which increases market power and disadvantages farmers. Vertical integration by meat processors represents a growing share of the supply chain and tightly manages all aspects of meat and poultry production "from genetics to grocery."[66]

Pork packers often secure livestock through contract marketing arrangements or production contracts with farmers. These contracts give farmers a guaranteed market for their hogs, but large contract buyers can extract lower prices and distort and conceal prices. Marketing and production contracts undermine the cash market and enable packers to manipulate the spot market, which is used as the reference price for most contracts, creating a long-term downward pressure on the value of hogs — either the prices farmers receive at auction, the prices they receive for marketing contracts or the fees they receive for production contracts.

Vertically integrated hog processing companies use marketing or production contracts to secure the hogs they slaughter. In marketing contracts, farmers agree to deliver a certain number of hogs at a future date. In another type of contract arrangement, known as a production contract, pork packers own the hogs and hire farmers to raise them. Production contracts essentially convert independent farmers that own their livestock into contract employees that perform services for the pork-packing industry. The significant reduction in autonomy and independence from often-exploitative contracts has been compared to serfdom or sharecropping and has been widely criticized in the broiler chicken industry.

Pork packers can use marketing contracts to secure livestock without having to bid against other packers to buy hogs at auction.[67] Contracts have been commonplace in some agricultural sectors, such as poultry, for decades but have been a relatively new phenomenon in the hog sector. Between 1991 and 1993, there were too few hog contracts for the USDA to count; by 2008, two-thirds of hogs were delivered under contract.[68] By 2013, less than 10 percent of hogs were sold on the spot market, which further reduces competition and depresses the prices independent farmers receive for their hogs.[69]

Contracting can further depress hog prices. Contracts short-circuit the price discovery functions of the marketplace by securing supplies outside of the public auctions or spot markets for hogs.[70] The price for contract hogs is typically tied to the spot or futures market prices, so meatpackers benefit when futures and spot prices decline. As the cash market is replaced by marketing and production contracts, the cash market becomes so limited that the remaining cash prices that are the basis for contracts become increasingly suspect and unrepresentative.[71]

[66] Barkema, Lan, Mark Drabenstott and Nancy Novack. Federal Reserve Bank of Kansas City. "The new U.S. meat industry." *Economic Review*. Second Quarter 2001 at 36.

[67] Carstensen (2004) at 6.

[68] MacDonald, James M. and Penni Korb. USDA ERS. "Agricultural Contracting Update: Contracts in 2008." EIB-72. February 2011 at 13.

[69] USDA GIPSA (2013) at Table 17 at 30 to 31.

[70] Barkema, Drabenstott and Novack (2001) at 36.

[71] Schroeder and Mintert (1999) at 2.

The combination of pork packer concentration and increased vertical integration means that smaller farms face fewer options to market their hogs and can become the suppliers of last resort when large packers need extra hogs for their slaughter facilities.[72] The hogs sold by independent farmers effectively are sold on spot markets that have "the characteristics of a salvage market," as economists from Purdue University noted.[73]

Fewer public transactions leave the markets susceptible to volatility, distortion and manipulation, since even a few sales can have a significant impact on the prices farmers receive. The rise of hog contracting can contribute to the long-term downward pressure on price and increase price volatility.[74] This creates the potential for pork packers and processors to manipulate hog prices across the industry.

JBS is one of the few pork packers that primarily relies on purchasing auction hogs and entering marketing arrangements with farmers. Conversely, Cargill obtains all of its hogs through production contracts. The proposed acquisition would not only magnify JBS's buyer power but would make JBS a considerably more vertically integrated pork packer. JBS's takeover of Cargill's pork operations includes not only Cargill's two pork packing plants but also five feed mills and two industrial farrowing operations, with more than 160,000 sows.[75] This acquisition would immediately make JBS a vertically integrated hog firm, owning feed mills, hog production facilities and inheriting production hog contract growers. This would limit the choices for all hog producers — either where to sell or market their hogs as well as the options to raise hogs under production contracts, which confirms and reinforces "the potentially harmful effects of increased concentration."[76]

The proposed acquisition accelerates and cements vertical integration and the use of production contracts in the hog sector. JBS would likely shift from largely sourcing all of its hogs from auctions and marketing contracts to using production contracts to raise the hogs produced by Cargill's farrowing production facilities. This could have a significant impact on hog farming in the upper and eastern Midwest, where production contracts are considerably less common.

[72] Barkema, Allen and Mark Drabenstott. Federal Reserve Bank of Kansas City. "Consolidation and change in Heartland agriculture." In Federal Reserve Bank of Kansas City. (1996) Federal Reserve Bank of Kansas City: Kansas City, MO. *Economic Forces Shaping the Rural Heartland* at 65.

[73] Paarlberg et al. (1999) at 3.

[74] *Ibid*. at 8.

[75] JBS USA (2015); "Top 25 Pork Powerhouses." *Successful Farming*. 2015.

[76] DoJ/FTC (2010) at 19.

IV. Proposed acquisition would create anticompetitive conditions in the wholesale pork market

The proposed JBS-Cargill acquisition would exacerbate horizontal monopoly power in the wholesale pork market. JBS and Cargill are two of the largest manufacturers of unbranded wholesale pork. Cargill Pork's primary product is fresh, wholesale pork that is boxed and shipped to retailers, foodservice firms and further processors.[77] JBS has just begun to move into branded meat products and primarily sells only the meat commodities of wholesale pork and beef.[78] The other major pork packers — Smithfield, Tyson and Hormel — sell a greater volume of branded and processed meat products, making Cargill and JBS essential to the wholesale pork market. The proposed acquisition would create the largest marketer of wholesale pork and eliminate a rivalry by eliminating a top competitor.

The appropriate product market is the national market for unbranded wholesale pork, a homogenous set of pork cuts sold to retailers, foodservice and further processors.[79] Many pork packers also sell branded fresh meats and processed meat products, which is excluded from the wholesale market.[80] Retail pork and beef (wholesale meat) represent one of the largest categories of unbranded groceries.[81]

The level of packer concentration creates leverage over the retail and other wholesale pork buyers.[82] The consolidation in the meatpacking sector allows pork packers to exert market influence over the prices buyers pay for wholesale pork.[83] A 2001 study found that packers used their market power to keep wholesale pork prices high even when farmgate hog prices fell.[84] Another study found that more than a third of the farm-retail price spreads were caused by the combined exercise of monopsony and monopoly market power by the concentrated pork packing industry.[85]

There have been similar studies in the beef industry demonstrating that packers used their market power to capture value in the meat supply chain and raise supermarket prices. A 2014 study found that beef packers (often the same firms as the top pork packers) have an advantage over livestock producers and "their gross margin will tend to remain the same when there is an increase in the price of the primary commodity, and it will tend to expand when there is a decrease in that price."[86] A 1980 Congressionally commissioned study found that beef packer concentration had "a significant effect on the prices for fresh beef."[87]

[77] Cargill Pork. "Products and brands." Available at http://www.cargill.com/company/businesses/cargill-pork/products-brands/index.jsp. Accessed July 2015.
[78] "JBS sets sights on branded packaged goods." *MeatingPlace*. June 24, 2015; Runyon (2015).
[79] Azzam and Pagoulatos (1990) at 363.
[80] Value Ag, LLC. "Wholesale Pork Price Reporting Analysis." Commissioned by USDA Agricultural Marketing Service. November 2009 at 9.
[81] Marsh, John M. and Gary W. Brewster. "Wholesale-retail marketing margin behavior in the beef and pork sectors." *Journal of Agricultural and Resource Economics*. Vol. 29, No. 1. April 2004 at 48.
[82] Emmanouilides, Chrostos J. and Panos Fousekis. "Vertical price dependence structures: Copula-based evidence from the beef supply chain in the U.S." *European Review of Agricultural Economics*. May 2014 at 17.
[83] Ward (2002) at 4.
[84] Miller, Douglas J. and Marvin L. Hayenga. "Price cycles and asymmetric price transmission in the U.S. pork market." *American Journal of Agricultural Economics*. Vol. 83, No. 3. August 2001 at 561.
[85] Ward (2002) at 14.
[86] Emmanouilides and Fousekis (2014) at 16.
[87] Helmuth, John W. and John R Multop. "Relationship Between Structure and Performance in the Steer and Heifer Slaughtering Industry." House of Representatives. Committee on Small Business. September 1980 at 40.

Table 7: National Wholesale Pork Market

Company	2014 Slaughter Capacity (head/day)	Est. % Wholesale	2014 Wholesale Capacity (head/day)	2014 Wholesale Market Share	Post JBS-Cargill Wholesale Market Share	Δ	% Change
Tyson Foods	76,925	84%	64,848	23.9%	23.9%		
JBS-Swift	50,000	100%	50,000	18.4%	28.4%	10.0%	54.1%
Triumph/Seaboard	40,800	94%	38,515	14.2%	14.2%		
Smithfield	118,500	26%	30,810	11.4%	11.4%		
Cargill Pork	37,800	72%	27,027	10.0%			
CR-4				67.9%	77.8%	10.0%	14.7%
HHI-4				1,240	1,707	466	37.6%
HHI-All				1,394	1,761	367	26.3%

Source: Analysis of National Pork Board data.

This market concentration is compounded by the lack of price transparency in the market for wholesale pork. Pork packers can more easily tacitly coordinate pricing when they have more market information than downstream buyers, which gives suppliers more market power and leverage over buyers.[88] Marketing arrangements (forward and formula contracts) are also common in the wholesale pork market, further thinning the cash market and making the price for wholesale pork opaque.[89] The USDA includes a "perilously low percentage volume of trade" in the public wholesale pork reports.[90] Wholesale pork price discovery is compromised because the prices for the most commonly purchased wholesale pork products are rarely reported.[91] As a result, wholesale pork buyers can pay a wide range of prices for the same shipment of wholesale pork. For example, the price ranges for the two most common pork loin cuts varied by 45 to 76 percent.[92]

Today, the top four pork packers control more than two-thirds (67.9 percent) of the national wholesale pork market (*see* Table 7).[93] The HHI is estimated to be 1,394, making the national wholesale pork market at the high end of unconcentrated. The proposed acquisition would make JBS-Cargill the nation's largest producer of wholesale pork with nearly one-third of the U.S. market (28.4 percent). The top four

[88] Sunshine, Steven C. Deputy Assistant Attorney General. Antitrust Division. U.S. Department of Justice. "Vertical Merger Enforcement Policy." Speech before the American Bar Association Section of Antitrust Law Spring Meeting. April 5, 1995 at 12.
[89] Schroeder and Mintert (1999) at 7.
[90] Value Ag, LLC. (2009) at 4.
[91] *Ibid*. at 35, 36 and 40.
[92] USDA AMS. "National Weekly Pork Report FOB Plant — Negotiated Sales. July 20, 2015.

[93] The share of wholesale pork for each of the top packers was estimated based on reported non-intersegment, non-branded sales. JBS is assumed to sell only wholesale pork; Cargill sells approximately 72 percent of its pork on the wholesale, unbranded market (Mintel. "Packaged Red Meat—U.S." February 2015); Tyson Foods reports that \$1.0 billion of its 2014 \$6.3 billion in pork sales went to intersegment sales, making wholesale sales account for approximately 84 percent of slaughter (Tyson Foods, Inc. Securities and Exchange Commission Form 10-K. Fiscal Year ending September 27, 2014 at 83); Smithfield's private label unbranded products account for 26 percent of total sales (Smithfield. "BMO Capital Markets 2013: Farm to Market Conference." May 14, 2013 at 10); Hormel transfers all its pork cuts from its slaughter operations to its food processing divisions, meaning effectively none of its slaughter capacity enters the wholesale market (Hormel Foods. 2013 Annual Report. "Delicious Growth." 2013 at 14); Triumph/Seaboard produces 98 million pounds of branded bacon and 50 to 60 million pounds of branded hams, amounting to about 6 percent of its annual slaughter production (*see* http://www.dailysmeats.com/about-factsfigures/Index.htm. Accessed July 2015); this analysis assumes that Hatfield Quality Meats, which sells a wide range of branded pork products, sells the industry average private label wholesale meat of 25 percent (Smithfield. May 24, 2013 at 10); and all pork packers with capacity under 5,000 hogs per day were assumed to sell all their pork on the wholesale market.

firms would sell more than three-quarters (77.8 percent) of the wholesale pork market. The proposed acquisition would increase the HHI by nearly 400 points to 1,761, increasing the concentration level substantially to moderately concentrated. That should raise “significant competitive concerns” and “warrant scrutiny.”[94]

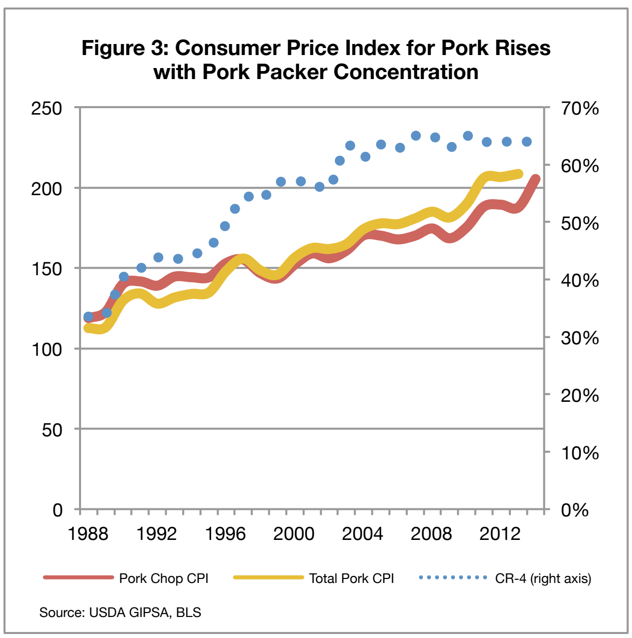
The proposed acquisition would raise concentration in the wholesale pork market and give JBS-Cargill sufficient market power to unilaterally raise wholesale prices or more effectively coordinate with other packers to disadvantage wholesale buyers. Because the market lacks transparency and price discovery, the proposed acquisition makes it even harder for wholesale pork buyers to shop for better deals. The impact of concentrated wholesale pork market power is especially acute for restaurants, cafeterias and other foodservice institutions that are more disaggregated than the retail, manufacturing or food distribution sectors. Ultimately, these higher prices would be passed onto consumers in the form of higher retail pork prices in grocery stores, foodservice establishments or restaurants.

[94] DoJ/FTC (2010) at 19.

V. Proposed Merger Would Increase Pork Prices, Erode Consumer Welfare

The horizontal and vertical elements of the proposed merger would enable or facilitate JBS-Cargill's ability to unilaterally impose pork price increases and erode consumer welfare. Monopoly power allows sellers to keep prices higher than they would be under more competitive situations.[95] The size and scope of the proposed merger is likely to increase pork prices and especially disadvantage lower-income consumers during a period of economic stagnation combined with already rising food prices.

Consumers are especially vulnerable to the consolidated market power of food companies since food is essential and total consumer demand for food is largely unresponsive to price. This inelastic demand also means that concentrated market power in the food sector can distort competition, raise prices and erode equity more significantly than sectors where consumers are more responsive to prices.[96] According to the American Antitrust Institute, the concentration in buyers, processing and retailing has "undoubtedly contributed to the increased cost of food." [97] Even small increases in pork prices constitute a considerable welfare loss to all consumers and can "result in a substantial transfer [to pork packers and retailers] when aggregated across all consumers."[98]



Shoppers have certainly faced high and rising grocery prices over recent years. The industry trade magazine *Progressive Grocer* reported in 2013 that, "Prices for grocery items remain high" and "have risen every month over the past two-and-a-half years."[99] Since the Great Recession started, grocery food prices rose more quickly than inflation and wages, and over the three years between 2010 and 2012 grocery food prices rose twice as quickly as average wages.[100]

The rising concentration in the pork packing industry has been accompanied by a significant rise in the consumer retail price for pork products. Over the past 20 years, the market share of the top four pork packers rose by 41 percent from 46 percent in 1995 to 64 percent in 2014.[101] Total pork prices rose by 67 percent over the same period and

[95] United States v. Cargill, Incorporated and Continental Grain Company. United States District Court for the District of Columbia. Civil Action No. 99-1875 (GK). "United States Response to Public Comments." February 11, 2000 at 18.

[96] Domina and Taylor (2009) at 8.

[97] American Antitrust Institute (2008) at 281.

[98] Miller and Hayenga (2001) at 561.

[99] *Progressive Grocer*. April 2013 at 50.

[100] U.S. Department of Labor. Bureau of Labor Statistics (BLS). Monthly average consumer price index for food at home (CUSR0000SAF11), all items total inflation (CUSR0000SA0) and average hourly earnings of private sector production workers and non-supervisory employees (CES0500000008).

[101] USDA GIPSA. "Packers and Stockyards Statistical Report: 1995 Reporting Year." SR-97-1. 1997 at Table 31; USDA GIPSA. "Packers and Stockyards Annual Report 2013." 2013 at Table 17 at 30 to 31.

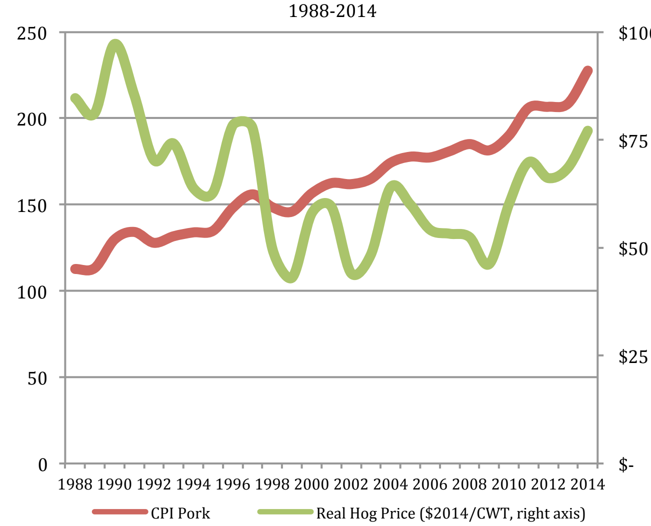
pork chop prices rose by 42 percent (*see* Figure 3).[102]

Pork packer consolidation has pushed down the real prices that farmers receive for their hogs (*see* Section I), but few of these savings are passed on to consumers — the packers and retailers are pocketing the difference. The USDA found that the efficiency gains in the pork sector have not been shared with consumers, suggesting that any efficiency gains that may possibly occur from the proposed merger would be unlikely to be shared with consumers. According to USDA, consumer prices for retail pork "increased substantially" between 1992 and 2004 despite the cost savings for pork packers from changes in the hog production sector and increases in processor efficiency.[103]

Although the price of hogs has been trending downward, the consumer price of pork products has been less responsive to the declining hog prices. Some studies have found that increases in farmgate prices are passed on to consumers completely and immediately, but when farmgate prices fall, the grocery store prices do not fall as rapidly or completely.[104] This phenomenon of sticky pricing (or asymmetric pricing) is common in many markets.[105] High levels of concentration in meatpacking and retailing allow these sectors to exercise their market power to keep consumer prices high even when the input prices for live hogs declines because there is insufficient competitive pressure that could capitalize on lower input prices to capture new consumers, demonstrating an oligopolistic coordinated market.[106] But concentration in the hog industry may amplify the asymmetric pricing tendencies that tend to ratchet up consumer prices even when input prices fall dramatically. Over the past several decades, the real price farmers receive for hogs has trended downwards and been increasingly volatile while retail prices have steadily increased (*see* Figure 4).

Many studies have documented sticky pork pricing. Retail prices are "significantly asymmetric" for slower but significant changes in hog prices.[107] Some economists attribute the increased spreads between hog farm prices and retail pork prices as well as

Figure 4: Farmgate Hog Price v. Consumer Pork Price
1988-2014

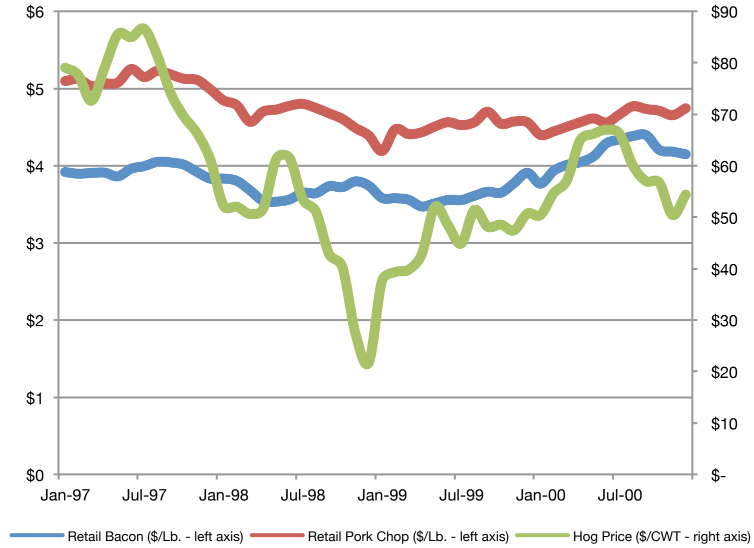


Source: USDA, BLS

[102] BLS. Consumer Price Index series. Monthly average price index for total pork (CUSR0000SEFD), pork chops (CUSR0000SEFD03) and bacon and breakfast sausage (CUSR0000SEFD01). Available at www.bls.gov/data/, accessed July 2014.
[103] Key, Nigel and William McBride. USDA ERS. "The Changing Economics of U.S. Hog Production." Economic Research Report 52. December 2007 at 24-26.
[104] Dimitri, Carolyn, Abebayehu Tegene and Phil R. Kaufman. USDA ERS. "U.S. Fresh Produce Markets: Marketing Channels, Trade Practices, and Retail Pricing Behavior." Agricultural Economic Report No. 825. September 2003 at 15.
[105] Peltzman, Sam. "Prices rise faster than they fall." *Journal of Political Economy*. Vol. 108, No. 3. 2000 at 493.
[106] Zheng, Shi, Douglas J. Miller, Zhigang Wang and Satoshi Kai. "Meta-evidence of asymmetric price transmission in U.S. agricultural markets." *Journal of the Faculty of Agriculture* (Kyushu University). Vol. 53, No. 1. 2008 at 350.
[107] Miller and Hayenga (2001) at 561.

the asymmetric price response when input prices fall due to the exercise of market power by the pork packers.[108] A USDA economist reported that "pork has evidence of asymmetric adjustment between wholesale and retail prices" and that this could be "evidence of a non-competitive price of pork to consumers."[109] Unlike other agricultural markets, retail pork prices may not eventually reach an equilibrium following a hog price decline, instead "lower costs may not be passed onto consumers, questioning the efficiency of price transmission in the U.S. hog/pork supply chain."[110]

Figure 5: Assymetric Pricing During 1998 Hog Crisis
(in 2014 dollars)



Source: USDA NASS, BLS

Consumers and farmers faced a stark example of this phenomenon during the 1998 hog crisis. When the prices farmers received for hogs plummeted, the supermarket prices that consumers paid for pork products did not decline very much.[111] Real hog prices dropped by about two-thirds between June and December of 1998, but real pork chop prices fell by only 8 percent and bacon prices actually rose by 5 percent (*see* Figure 5).[112]

Some have suggested that asymmetric pricing trends may not be related to market power but to consumer search costs or to cost adjustments by manufacturers.[113] However, these explanations work poorly for retail food price asymmetry because consumers are largely captive to their preferred grocery retailer. Each supermarket effectively acts as a local, one-stop-shopping

[108] Kulper, W. Erno and Alfons G.J.M. Oude Lansink. "Asymmetric price transmission in food supply chains: Impulse response analysis by local projections applied to U.S. broiler and pork prices." *Agribusiness*. Vol. 29, No. 3. 2013 at 342.

[109] Hahn, William F. USDA ERS. "Dynamic and Asymmetric Adjustment in Beef and Pork Prices." Paper presented at the Agricultural & Applied Economics Association 2010 Annual Meeting. Denver, Colo. July 25-27, 2010 at 14.

[110] Gervais, Jean-Philippe. "Disentangling nonlinearities in the long- and short-run price relationships: An application to the US hog/pork supply chain." *Applied Economics*. Vol. 43. 2011 at 1509.

[111] Lazarus, William F. et al. University of Minnesota, Department of Applied Economics. "Generic Environmental Impact Statement on Animal Agriculture in Minnesota." Submitted to the Minnesota Environmental Quality Board. June 29, 2001 at 181.

[112] Analysis of average consumer price data from BLS, Consumer Price Index—Average Price Data, U.S. City Average. Series ID: APU0000704111 Bacon and APU0000704211 Center Cut Bone-in Pork Chops. Farmgate prices from USDA NASS, Agricultural Prices Annual Summary. 1990–2011.

[113] *See* Remer, Marc. U.S. Department of Justice. Economic Analysis Group. "An Empirical Investigation of the Determinants of Asymmetric Pricing." EAG No. 12-10. November 2012. This paper discounts market power of asymmetric pricing in retail gasoline prices by determining market concentration based on brand (but not franchise) density of establishments, not of sales. *See* also, Kimmel, Sheldon. U.S. Department of Justice. Economic Analysis Group. "Why Prices Rise Faster than they Fall." EAG No. 09-4. July 2009. This paper argues that manufacturers would have to increase capital or labor expenditures to take advantage of lower prices, which slows the response to declining input costs. This is less true in pork slaughter and fabrication, which rarely operates at full capacity and can easily accommodate increased supplies without making capital investments.

monopoly.[114] Consumers are unlikely and unwilling to switch to different stores based on small price increases.[115] Search costs do not explain the price asymmetry in the retail pork market, which is a slower cycle change than some high-frequency search cost examples (such as gasoline).[116] Indeed, studies that discount market power explanations admit that "the price of products whose consumers are less likely to shop for the lowest price are slower to adjust downwards during a negative cost shock, but increase at the same rate following a cost increase."[117]

Beyond price, increased concentration reduces consumer choice and can lower the quality of goods, as fewer participants compete to capture consumers based on value. According to the USDA, high levels of market concentration allow the largest participants to extract more of the economic value from food transactions, but "consumers typically bear the burden, paying higher prices for goods of lower quality."[118] For example, according to USDA, the low-cost pork produced from large-scale hog operations, where the animals are bred to gain weight quickly, "may not have the flavor or texture some buyers seek."[119]

The proposed merger would strengthen JBS-Cargill's market power over wholesale pork and enable the post-acquisition firm to profitably increase wholesale prices, ultimately hitting consumers at the supermarket checkout. As the Department of Justice has noted, "A firm with a large market share may not feel pressure to reduce price even if a smaller rival does."[120]

[114] Connor, John M. "Evolving research on price competition in the grocery retailing industry: An appraisal." *Agricultural and Resource Economics Review*. October 1999 at 122.
[115] Balto, David A. "Supermarket Merger Enforcement." *Journal of Public Policy & Marketing*, Vol. 20, Iss.1. Spring 2001 at 43.
[116] Miller and Hayenga (2001) at 561.
[117] Remer (2012) at 1.
[118] King, John L. USDA ERS. "Concentration and Technology in Agricultural Input Industries." AIB-763. March 2001 at 2.
[119] MacDonald and McBride (2009) at 22.

[120] DoJ/FTC (2010) at 15.

VI. Conclusion and Recommendations

The proposed JBS-Cargill acquisition significantly increases concentration in the pork packing industry and would undermine competition, reduce the price farmers receive for their hogs, accelerate anticompetitive vertical integration and raise consumer prices. The merger is one of the largest pork-packing mergers in recent years. The size and impact of the proposed acquisition deserves close examination. The U.S. Department of Justice should issue a second request to fully investigate the potential adverse, anticompetitive impacts the proposed acquisition can have on the marketplace, consumers and farmers.

The Department of Justice should pay special attention to several factors that could further exacerbate the anticompetitive effects of the proposed acquisition:

JBS-Cargill's Midwestern captive draw areas: The proposed acquisition substantially increases pork packer concentration on the national level but has an especially negative impact on hog farmers in the eastern and upper Midwest. The proposed acquisition would make JBS-Cargill the second largest national pork packer, the second largest in Iowa, the largest in Iowa and surrounding states and essentially the same size as the largest packer in Illinois-Indiana and surrounding states. JBS-Cargill could exercise unilateral and/or coordinated market power to depress the price they pay for hogs. For farmers operating in the midst of the captive draw areas of JBS and Cargill, the proposed acquisition would limit their hog marketing options, reduce the price they receive for hogs and erode their economic viability. These impacts harm not only the farmers themselves but also the economic stability of surrounding rural communities.

The impact of Cargill's vertical integration on JBS and the hog sector: The proposed acquisition will likely accelerate the vertical integration of the hog sector in the upper and eastern Midwest by joining Cargill-owned farrowing facilities and feed mills with the larger post-acquisition pork slaughter operations. Vertical integration reduces farmer independence and autonomy and subverts price discovery by excluding larger volumes of hogs from the open market. The proposed acquisition would allow JBS-Cargill to exercise unilateral and coordinated market power to manipulate the thin auction hog market that is the price basis for most production and marketing contracts.

The impact on the wholesale pork market and consumers: The proposed acquisition creates the largest wholesale pork producer in the United States controlling nearly one-third of wholesale pork sales. This would give the post-acquisition firm unilateral and coordinated market power to impose price increases on wholesale pork buyers that have fewer alternative sources. The largely opaque wholesale pork market, where common wholesale pork cuts are sold at a wide range of price points magnifies this effect. This disadvantages foodservice and retail establishments and ultimately JBS-Cargill would be able to impose price hikes on retail and foodservice consumers. Even small increases in consumer pork prices can constitute a significant welfare transfer from consumers to pork packers.

There are more than sufficient anticompetitive concerns for the Department of Justice to block the early termination of the merger review, issue a second request and extend the investigation into the JBS-Cargill acquisition. The Department of

Justice should not approve the largest pork-packing merger in years that would erode competition in hog slaughter and wholesale pork that would disadvantage farmers and consumers. The Department of Justice should enjoin this proposed acquisition.