No. 21-468

In the Supreme Court of the United States

NATIONAL PORK PRODUCERS COUNCIL & AMERICAN FARM BUREAU FEDERATION,

Petitioners,

v.

KAREN ROSS, ET AL.,

Respondents.

On Petition for a Writ of Certiorari to the United States Court of Appeals for the Ninth Circuit

BRIEF OF AMICI CURIAE IOWA PORK PRODUCERS ASS'N, MINNESOTA PORK PRODUCERS ASS'N, IOWA FARM BUREAU FED'N, MINNESOTA FARM BUREAU FED'N, AND MINNESOTA AGRIGROWTH COUNCIL IN SUPPORT OF PETITIONERS' REQUEST FOR CERTIORARI

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TABLE OF CONTENTS

TABLE OF AUTHORITIES

Cases

Rules

Treatises

INTEREST OF AMICI CURIAE

The Iowa Pork Producers Association, Minnesota Pork Producers Association, Iowa Farm Bureau Federation, Minnesota Farm Bureau Federation, and Minnesota AgriGrowth Council submit this amici curiae brief in support of Petitioners.[1]

The Iowa Pork Producers Association is a grassroots organization with more than 4,500 members across Iowa. The organization serves as a unified voice that represents the interests of Iowa's pork producers and promotes a sustainable, socially responsible, and globally competitive pork industry.

The Minnesota Pork Producers Association celebrates the story and advocates to protect the interests of the state's pork producers. The organization is funded by voluntary contributions from more than 700 member-farmers who raise the majority of pigs produced in Minnesota and works to establish the pork industry as a responsible supplier of high-quality pork.

The Iowa Farm Bureau Federation is an independent, non-governmental, voluntary organization of farm families. The organization has more than 153,000 members, which includes members who raise pork and farmers who grow feed for animals.

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[1] No counsel for a party authored this brief in whole or in part, and no entity or person, other than amici curiae, their members, and their counsel, made a monetary contribution intended to fund the preparation or submission of this brief. Counsel of record for the parties received notice of amici's intent to file this brief at least ten days before its due date. The parties have consented to the filing of this brief.

The Minnesota Farm Bureau Federation consists of 78 county farm bureaus with nearly 30,000 member families who are farmers, ranchers, and others who have an interest in the future of agriculture. The Minnesota Farm Bureau Federation was formed in November 1919 and, for the past 102 years, has advocated on behalf of the beliefs and policies of its members to promote agriculture.

The Minnesota AgriGrowth Council is a nonprofit, nonpartisan member association that serves as a positive voice for, and champions long-term sustainability, competitiveness, and growth in, Minnesota's agriculture and food industry. The organization has approximately 150 members (consisting of both individual persons and other organizations) and serves as a convener, advocate, and thought leader that seeks to access opportunities and create common solutions to challenges facing our agri-food system.

These organizations share a common interest in the issues raised by Petitioners—they represent the interests of farmers who, despite being located halfway across the country from California, will bear the brunt of the additional capital expenditures, increased operating costs, intrusive inspection and certification requirements, and grave biosecurity risks that California seeks to impose through Proposition 12. Iowa is the largest hog producing state in the country and, as of September 1, 2021, has an inventory of 24,400,000 pigs (including 900,000 breeding pigs and 23,500,000 market hogs), which is nearly one-third of the total swine herd in the United States. *See* USDA Nat'l Agric. Statistics Serv.,

Quarterly Hogs & Pigs 8 (Sept. 24, 2021), available at https://usda.library.cornell.edu/concern/publications/rj430453j. Minnesota is the second largest hog producing state in the country with an inventory of 9,000,000 pigs (including 530,000 breeding pigs and 8,470,000 market hogs). *See id.* These organizations are thus uniquely positioned to address the practical problems that their farmer-members will face as a result of California's implementation of Proposition 12.

SUMMARY OF ARGUMENT

This Court has a long history of applying the Commerce Clause, consistent with other federalism principles, to protect the individual sovereignty of each state and to prevent one state from projecting its unique regulatory schemes into other states or using such regulatory schemes to burden interstate commerce. Although California's Proposition 12 may initially appear to regulate only the sale of pork within California, the practical impact of this law, and the regulations by which California proposes to implement this law, is to require hog farmers located in Iowa and Minnesota (and elsewhere throughout the world) to subject themselves to California's regulatory regime and administrative agents. The effects of this law will be catastrophic and threaten our Nation's supply of safe and wholesome pork. Accordingly, compelling reasons exist for this Court to grant certiorari review of the Ninth Circuit's decision in this proceeding.

ARGUMENT

The Commerce Clause authorizes Congress "[t]o regulate Commerce with foreign nations, and among the several States . . . ." U.S. Const. art. I, § 8, cl. 3. The Commerce Clause was intended " 'to create an area of free trade among the several States,' "*Great Atlantic & Pacific Tea Co., Inc. v. Cottrell*, 424 U.S. 366, 371 (1976) (quoting *McLeod v. J. E. Dilworth Co.*, 332 U.S. 327, 330 (1944)), and " 'to avoid the tendencies toward economic Balkanization that had plagued relations among the Colonies and later among the States under the Articles of Confederation,' " *South Dakota v. Wayfair, Inc.*, 138 S. Ct. 2080, 2089 (2018) (quoting *Hughes v. Oklahoma*, 441 U.S. 322, 325-26 (1979)). Or as this Court further explained:

> Our system, fostered by the Commerce Clause, is that every craftsman shall be encouraged to produce by the certainty that he will have free access to every market in the Nation, that no home embargoes will withhold his export, and no foreign state by customs duties or regulations exclude them. Likewise, every consumer may look to the free competition from every producing area in the Nation to protect him from exploitation by any. Such was the vision of the Founders; such has been the doctrine of this Court which has given it reality.

H. P. Hood & Sons, Inc. v. Du Mond, 336 U.S. 525, 539 (1949).

This Court generally applies "a two-tiered approach to analyzing state economic regulation under the Commerce Clause." *Brown-Forman Distillers Corp. v. New York State Liquor Authority*, 476 U.S. 573, 578-79 (1986). First, state laws and regulations may not "directly regulate or discriminate against interstate commerce" or "favor in-state economic interests over out-of-state interests." *Id.* at 579. Second, when a state law or regulation "has only indirect effects on interstate commerce and regulates evenhandedly, [this Court] ha[s] examined whether the State's interest is legitimate and whether the burden on interstate commerce clearly exceeds the local benefits." *Id.*; *accord Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970). Under either approach, however, "the critical consideration is the overall effect of the statute [or regulation] on both local and interstate activity." *Brown-Forman*, 476 U.S. at 579.

Separately, this Court has also recognized "the Constitution's special concern both with the maintenance of a national economic union unfettered by state-imposed limitations on interstate commerce and with the autonomy of the individual States within their respective spheres." *Healy v. Beer Institute, Inc.*, 491 U.S. 324, 335-36 (1989). Accordingly, "a statute that directly controls commerce occurring wholly outside the boundaries of a State exceeds the inherent limits of the enacting State's authority and is invalid regardless of whether the statute's extraterritorial reach was intended by the legislature." *Id.* at 336. The Court identified this proposition as a <u>minimum</u> constitutional requirement and further emphasized that "[t]he critical inquiry is whether the <u>practical</u>

effect of the regulation is to control conduct beyond the boundaries of the State," including "how the challenged statute may interact with the legitimate regulatory regimes of other States and what effect would arise if [other States] adopted similar legislation." *Id.* (emphasis added). In other words, "the Commerce Clause protects against inconsistent legislation arising from the projection of one state regulatory regime into the jurisdiction of another State." *Id.* at 336-37; *accord Baldwin v. G.A.F. Seelig, Inc.*, 294 U.S. 511, 521, 524 (1935).

As described more fully in the Petition, the Ninth Circuit's decision in this case ignored this Court's unambiguous language in *Baldwin*, *Brown-Forman*, and *Healy* and improperly limited the prohibition on extraterritorial regulations to price control or price affirmation statutes. (*See* Pet. 21-26.) In doing so, the Ninth Circuit's decision conflicts with prior decisions by the Fourth, Sixth, and Seventh Circuits. (*See* Pet. 26-28.) Further, aside from the specific prohibitions of extraterritorial regulation, the Ninth Circuit failed to meaningfully balance California's purported local interest in implementing Proposition 12 (which is non-existent) against the substantial burdens that this California law will impose on interstate commerce in pork. (*See* Pet. 28-32.) Accordingly, based solely on the legal questions presented, compelling reasons exist for this Court to grant certiorari review of the Ninth Circuit's decision in this case.

But in addition to the important constitutional issues presented, which are adequately covered in the Petition and other submissions to this Court, the prac-

tical impact that California's implementation of Proposition 12 will have on pork production throughout the Nation—and the substantial disruption it will cause to a critical component of our food supply—is significant and separately provides a compelling reason for this Court to review the Ninth Circuit's decision in this case.

I. Through Proposition 12, California Projects Its Animal-Rights Regulatory Scheme into Other States and Extensively Regulates Commercial Transactions that Occur Entirely Outside of California.

The operative language of California's Proposition 12 provides as follows: "A business owner or operator shall not knowingly engage in the sale within the state of . . . [w]hole pork meat that the business owner or operator knows or should know is the meat of a covered animal[2] [that] was confined in a cruel manner or is the meat of immediate offspring of a covered animal [that] was confined in a cruel manner.[3]" Cal. Health & Safety Code § 25990(b)(2). The

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[2] A "covered animal" includes a "breeding pig," which is defined as "any female pig of the porcine species kept for the purpose of breeding [that] is six months or older or pregnant." Cal. Health & Safety Code § 25991(a), (f).

[3] With respect to pork, the statute defines "confined in a cruel manner" to mean "[c]onfining a covered animal in a manner that prevents the animal from lying down, standing up, fully extending the animal's limbs, or turning around freely" and, "[a]fter December 31, 2021, confining a breeding pig with less than 24 square feet of usable floorspace per pig." Cal. Health & Safety Code § 25991(e).

law includes a "good faith defense" that allows a business owner who sells pork to "rel[y] in good faith upon a written certification by the supplier that the . . . whole pork meat . . . was not derived from a covered animal who was confined in a cruel manner, or from the immediate offspring of a breeding pig who was confined in a cruel manner." Cal. Health & Safety Code § 25993.1.

On its face, the statutory language may appear to only regulate transactions (sales of pork) that occur within California. But an examination of the statute's practical effects in the context of pork production, as well as the regulations by which California proposes to implement the law, demonstrate that the statute will impose the state's extreme animal-rights regulatory scheme on farmers across the county (and North America, *see* Brief of Canadian Pork Council as *Amicus Curiae* in Support of Petitioners) and will regulate numerous businesses that are located, and commercial transactions that occur, entirely outside of California. In other words, a closer examination of the law reveals California Proposition 12's purported regulation of sales of pork in California to be a wolf in sheep's (or, in this case, pig's) clothing.

In order to understand the practical effects of California's Proposition 12, one must begin with the general background of hog farming in the United States. The biological cycle of a hog begins when a sow or gilt[4] is bred. After a gestation period of approxi-

[4] A sow is a female pig that has previously had at least one litter of pigs, while a gilt is a female that has not yet had a litter of pigs.

mately 115 days, the sow will give birth to, or farrow, a litter of piglets with ten to fourteen piglets in each litter. The piglets are weaned approximately three weeks after they are born, after which they may be referred to as "weaned pigs" or "nursery pigs." In most cases,[5] the pigs will be raised until they are ready for market. In the meantime, the sow that farrowed the piglets will come into heat again approximately five days after the pigs are weaned and may be re-bred at that time. A typical breeding sow will farrow approximately two litters per year.

The growing period of a market hog generally lasts approximately 22 to 24 weeks after weaning (approximately 26 weeks from birth) and may be divided into two phases: (i) a nursery phase begins when the pigs are weaned and continues until they reach approximately 40 to 60 pounds (usually between six and ten weeks after birth), after which the pigs may be referred to as "feeder pigs" or "finishing pigs"; and (ii) a finishing phase that continues until the pigs reach market weight (which can vary significantly but is generally around 240 to 300 pounds).

Historically, hog production occurred mostly on small, diversified farms that grew crops and raised multiple species of livestock—these farmers typically had a small number of sows that they would breed and raise the offspring produced from birth until they were ready to market (referred to as a farrow-to-finish

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[5] In some cases, weaned pigs may be raised to maturity and kept for future breeding.

operation). Over the last 40 years, however, hog production in the United States has shifted dramatically to meet consumer demands. Today, most hog farms are larger and specialize in one phase of production. For example, most sows are housed in gestation and farrowing facilities. After new pigs are weaned, they are moved from the sow farm to a nursery barn, and eventually to a finishing barn, on different sites where they are housed with a group of other pigs that are approximately the same age and size.[6] This specialization and grouping of similar animals allows hog farmers to feed specialized rations and provide specialized care that improves animal welfare and meat quality, maximizes efficient use of land and feed, reduces input costs, prevents or mitigates disease outbreaks, and improves the environmental sustainability of the farming operation.

Some hog farmers use a vertically integrated production model in which the producer will typically own one or more sow farms and will contract with other farmers to provide nursery and finishing barns and labor to care for the pigs. Under this model, the producer will own the hogs from the time they are born until they are marketed and sold to a packer to be processed into pork. Integrated production models generally involve large numbers of sows and pigs.

But other hog farmers continue to operate independent farms that are generally smaller and operate a single phase of the production cycle. For example, a

[6] In some cases, the nursery and finishing phases may be combined at a single farm, which is often referred to as a wean-to-finish operation.

farmer may operate a sow farm that maintains a herd of breeding sows and sells weaned pigs on the open market. Other hog farmers may own and operate nursery farms and buy weaned pigs and later sell feeder pigs on the open market. Still other hog farmers may own finishing farms and buy weaned pigs or feeder pigs from other farmers and then sell them to a packer when the hogs reach market weight. In this way, a single pig may be bought and sold two or three times before it is eventually processed into pork. In order to facilitate these markets, the USDA Agricultural Marketing Service publishes on a weekly and quarterly basis National Direct Feeder Pig Reports that report numbers and average prices for weaned pigs and feeder pigs sold on the open market. *See* USDA Agric. Marketing Serv., Swine Direct Reports, https://www.ams.usda.gov/market-news/swine-direct-reports (last accessed Nov. 10, 2021).

As noted above, most hogs in the United States are produced in the upper Midwest (Iowa is the largest hog producing state in the country and Minnesota is the second largest hog producing state based on current inventories). *See* USDA Nat'l Agric. Statistics Serv., *Quarterly Hogs & Pigs*, *supra* at 8. In contrast, California's total inventory of pigs as of December 1, 2020, was just 99,000. *See* USDA Nat'l Agric. Statistics Serv., *Quick Stats*, https://quickstats.nass.usda.gov (search the Animals & Products sector, Livestock group, Hogs commodity, and Hogs – Inventory data item). The reason for this geographic distribution of hog production is quite simple—the Midwest is the largest producer of corn and soybeans (the two primary components of hog feed) in the world,

and feed costs, which generally account for approximately one-half of the cost of producing a market hog, are therefore lower in this region than in other states. Further, most packers have also located their processing facilities in these same areas to be near the supply of finished hogs and minimize transportation costs.

Thus, although Proposition 12 ostensibly regulates only the sale of pork in California, retailers and wholesalers who purchase pork for ultimate resale in California will necessarily require the packers who produce such pork (virtually all of whom are located outside of California) to provide written certification that the pork complies with Proposition 12's requirements. *See* Cal. Health & Safety Code § 25993.1. Those packers, in turn, will require the hog farmers from whom they purchase the market hogs that are processed into pork products to provide the same certification, even though the entire transaction related to such market hogs almost certainly will have occurred outside of California.[7] And this requirement will either exclude smaller independent hog farmers from the market entirely (if they do not have a regular supplier and instead purchase weaned pigs from other farmers) or require them to condition their purchase of the weaned pigs (which transaction again almost certainly occurs outside of California) on certification

[7] Most modern packing plants process thousands of pigs every day, and the meat from different pigs is often intermingled to package pork products to efficiently meet consumer demand for particular products around the world. Accordingly, it generally is not feasible for packers to segregate pork that may be sold in California from other pork that may be sold elsewhere.

of compliance with California's extreme regulatory regime. In other words, the practical effect of California's implementation of Proposition 12 is to burden interstate commerce in market hogs entirely outside of California's jurisdiction.

If there is any remaining doubt that California's Proposition 12 regulates hog farming outside of California—and not merely sales of pork within California—such doubts are erased by the regulations proposed by the California Department of Food and Agriculture to implement the law.[8] The proposed regulations require all pork distributors[9] in California, and "any out-of-state pork distributors selling whole pork meat into California for purposes of human food use in the state," to register on an annual basis with the California Department of Food and Agriculture. (Pet. App. 107a-109a.) As a condition of such registration, however, a pork distributor must maintain records that are "sufficient for purposes of an audit trail."

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[8] Proposition 12 directed that "[t]he Department of Food and Agriculture and the State Department of Public Health shall jointly promulgate rules and regulations for the implementation of this act by September 1, 2019." Cal. Health & Safety Code § 25993(a) (emphasis added). But California ignored this clear statutory directive and did not formally publish proposed rules until May 25, 2021. (*See* Pet. App. E-G.) More than two years after the deadline—and less than two months before the law is scheduled to take effect—the state still has not promulgated final rules or regulations for the implementation of the law.

[9] The proposed regulations define a "pork distributor" as "a person or facility engaged in the business of commercial sales or distribution of whole pork meat (as a pork producer or otherwise) to an end-user in California." (Pet. App. 104a.)

(Pet. App. 111a.) An "audit trail," in turn, requires documentation that pork sold in California be "from pork producers that hold a valid certification as a certified operation issued pursuant to Article 5 of this Chapter." (Pet. App. 100a.) Thus, the proposed regulations effectively require that pork producers—i.e., hog farmers who operate sow farms (Pet. App. 104a)—be certified by the State of California, regardless of where they are located, if the packer to whom the weaned pigs they produce may eventually be sold, sells any pork in California.

In order to obtain certification, a pork producer must file an application with the State of California and subject themselves to onerous recordkeeping requirements (including all production records and records of all sales of hogs) and their production facilities to annual inspections by an agent of California. (Pet. App. 123a-130a.) In addition to the required annual inspections, the California Department of Food and Agriculture "may require that additional inspections be performed by an accredited certifying agent [not necessarily the original certifying agent selected by the farmer] or the Department." (Pet. App. 129a.) This could include radical animal rights activists who may become accredited by California as certifying agents. (*See* Pet. App. 119a, 136a-140a.) In other words, Proposition 12 requires hog farmers who own and operate sow farms to submit information about their operation to the State of California and allow any person designated by the state to travel to and enter their farms (whether those farms are located in Iowa, Minnesota, Canada, or anywhere else) to inspect their operations and records. It is dif-

ficult to conceive of a more direct or intrusive regulation of activities occurring entirely outside of California's jurisdictional boundaries.

The brazen scope of California's effort to project its extreme animal rights regulatory scheme and directly regulate farming activities that occur entirely in other states presents a grave threat to the federalism principles upon which our Nation was founded and a compelling reason for this Court to review the Ninth Circuit's decision affirming the constitutionality of Proposition 12.

II. The Implementation of California's Proposition 12 Will Force Hog Farmers in Iowa, Minnesota, and Other States to Make Significant Capital Investments and Lose Significant Profits through Less Efficient Operations.

As the Petitioners alleged in their Complaint, most sow farms in the United States (72 percent) currently house pregnant sows and gilts in individual maternity pens throughout gestation. (Pet. App. 204a.) This system limits the ability of the sow or gilt to turn around but protects the animal from aggression and injury from other animals and competition for access to food and water; improves hygiene and prevents disease by separating food from manure; allows the farmer to provide individualized feed rations and veterinary treatments to the animal; reduces sow stress; and protects farm workers from injuries from sows, which can weigh more than 400 pounds. (Pet. App. 151a, 172a-175a, 185a-186a, 222a.)

Other sow farms house pregnant sows and gilts in group pens with other animals; these pens typically provide 16 to 18 square feet of space per sow, but these farms also generally use individual pens for 30 to 40 days from the time a sow finishes weaning a litter until a new pregnancy is confirmed. (Pet. App. 173a-175a, 186a-191a, 204a.) The American Association of Swine Veterinarians recognizes that either housing system is appropriate as long as every animal (i) has access to appropriate food and water; (ii) is protected from injury, disease, and environmental extremes; and (iii) is provided with good air quality and proper sanitation. (*See* App. 2A.[10]) Thus, the selection of the best housing system is properly left to the individual farmer based on his or her unique management practices and experience.

Under Proposition 12, however, this decision is removed from the experts—i.e., the farmers with their veterinarians and consultants—and is usurped by the animal activists and bureaucrats in California. Specifically, Proposition 12 prohibits the use of individual maternity pens and requires all sow farms that produce weaned pigs that may eventually be processed into pork and sold in California to use group housing with at least 24 square feet of space per animal. Cal. Health & Safety Code § 25991(e). As noted above, nearly all existing sow farms do not meet these requirements. Hog farmers will therefore be required

[10] This letter represents that comments that the American Association of Swine Veterinarians submitted to the State of California in connection with the proposed rules to implement Proposition 12.

to undertake extensive (and expensive) capital improvements to remodel or expand existing barns or build new farms to meet California's unscientific and arbitrary sow housing requirements.

The cost of these capital improvements will be enormous. Dr. Barry Goodwin estimates that the construction of a new swine facility to house 5,200 sows in compliance with California's Proposition 12 will cost $15.6 million. (*See* App. 16A.) Dr. Steve Meyer estimates that 672,984 sows housed in compliance with Proposition 12's requirements (or 130 of Dr. Goodwin's hypothetical 5,200 head facilities) are needed just to supply pork to California. (*See* Pet. App. 345a.) Dr. Meyer estimates that hog producers in the United States will be forced to invest between $294 million and $348 million of additional capital and will incur additional costs of $13.05 and $13.69 per pig (a 9.2 percent increase) to comply with the requirements of California's Proposition 12 (Pet. App. 350a-351a), and based on increases in the cost of construction supplies, Dr. Meyer's estimates may be low.

The potential impact on farmers becomes even more acute as a result of the threat of inconsistent regulations in other states. If California is able to impose its regulatory requirements on farmers in other states (and countries), then other states may do the same. Thus, after hog farmers in Iowa and Minnesota invest millions of dollars to remodel or build hog farms with group housing that provides 24 square feet of space per pig as required by California's Proposition 12, New York may pass a law requiring 25 square feet of space per pig. Is it reasonable to expect hog farmers to

invest millions of dollars in capital expenditures—over and over again—in order to comply with ever-changing standards that other states choose to reach out and impose on them? And what if Iowa or Minnesota determines that group housing poses an unreasonable safety risk to farm workers and exercises its sovereign power to require individual maternity pens in hog farms located within its borders?

In any case, the costs imposed by California through Proposition 12 are enormous—and will be borne almost entirely by hog farmers located in other states and countries. These costs present another compelling reason for this Court to grant certiorari review of the Ninth Circuit's decision in this case.

III. The Implementation of California's Proposition 12 Will Force Many Small, Independent Hog Farmers to Sell or Shut Down Their Farms.

As noted above, the proposed regulations that California has published to implement Proposition 12 requires pork distributors who sell pork in California to maintain records that are "sufficient for purposes of an audit trail." (Pet. App. 111a.) In effect, this proposed regulation would require pork distributors to trace the pork they are selling upstream all the way to the sow farm.

The effect of these regulations will be catastrophic for small, independent hog farmers. Because of their size, hog farmers who operate small, independent sow farms that sell weaned pigs on the open market are less likely to have access to the millions of

dollars in additional capital necessary to remodel existing facilities or build new facilities to comply with the requirements of Proposition 12. Many of these farmers will be forced to either sell non-compliant weaned pigs or simply shut down their farming operation. These effects will then spread downstream to the independent hog finishers who do not own their own sow farm but instead purchase weaned pigs from other farmers—if they are not able to provide documentation that their market hogs originated from a certified sow farm, packers are likely to significantly discount the price they will pay for these market hogs (if they will purchase the hogs at all).

Thus, for small, independent hog farmers, the best-case scenario is that Proposition 12 will force them to comply with burdensome recordkeeping requirements to maintain an "audit trail"; however, the more likely scenario is that they will suffer significantly reduced revenue or shut down entirely. As Dr. Goodwin succinctly explained:

> The sectoral changes that Proposition 12 is likely to trigger will be unfavorable for smaller hog farms, who will have less access to credit and who will be less able to undertake the investments necessary to bring facilities into compliance with the space requirements of the proposition. This will hasten concentration of the hog industry, with smaller farms exiting the sector, leaving a US hog industry that has fewer but larger farms.

(App. 20A.)

The pork industry plays a crucial role in the economy of Iowa and Minnesota. According to a study prepared for the Iowa Pork Producers Association in 2020, hog production, slaughter, further processing, and other related economic activity contributed $40.8 billion in output and more than 147,000 jobs (and $6.84 billion in labor income) to Iowa's economy and generated $893 million in state and local taxes and $1.3 billion in federal taxes. *2020 Iowa Pork Industry Report* 7 (May 2020), available at https://www.iowapork.org/iowa-pork-industry-contribution-study-2020/2020-iowa-pork-industry-report/. And a recent report published by the University of Minnesota Extension Service estimates than hog farmers in Minnesota generate $1.5 million in economic activity per farm and that a loss of just 15 percent of hog production in Minnesota would result in $660 million in lost output and the loss of 2,100 jobs. Joleen Hadrich, Megan Roberts, & Brigid Tuck, *The Role of Hog Farmers in Minnesota's Rural Economy* 1 (May 15, 2020), available at https://conservancy.umn.edu/handle/11299/214887. Yet California's efforts to project its extreme animal rights regulations into Iowa, Minnesota, and other states threatens to fundamentally disrupt the rural economy and threatens the livelihood of residents halfway across the country. The significant impact that California's implementation of Proposition 12 will have on the economy and welfare of other states, including Iowa and Minnesota, presents yet another compelling reason for this Court to grant certiorari review of the Ninth Circuit's decision.

IV. The Implementation of California's Proposition 12 Significantly Increases the Risk of Spreading Swine Diseases.

Finally, the implementation of California's Proposition 12 would significantly increase the risk that sow farms face from swine diseases, thereby threatening the health and welfare of the animals. With respect to swine diseases, the introduction, outbreak, and spread of swine diseases can have catastrophic consequences both for individual farms and for pork production as a whole.

African Swine Fever (ASF) virus is a fatal and highly infectious hemorrhagic disease that broke out in China in August 2018. Researchers estimate that more than 40 million pigs died in China from the impacts of the virus and that the outbreak caused an economic loss of approximately $111.2 billion. *See Swine Fever's Huge Economic Toll in China*, 598 Nature 11 (Oct. 7, 2021). A few months ago, the USDA confirmed that ASF was detected in the Dominican Republic earlier this year. USDA Animal & Plant Health Inspection Serv., *USDA Statement on Confirmation of ASF in the Dominican Republic*, https://www.aphis.usda.gov/aphis/newsroom/news/sa_by_date/sa-2021/asf-confirm (July 28, 2021).

The significant impact that a disease such as ASF would have on pork production in the United States is shown from farmers' past experiences with other swine diseases. For example, Porcine Epidemic Diarrhea virus (PEDv) emerged in the United States in 2013 and spread throughout the U.S. hog population. More than 50 percent of sow farms in the United

States experienced an outbreak of PEDv in 2014. The virus caused acute diarrhea and vomiting in pigs and has a mortality rate of between 80 and 100 percent in suckling pigs. Largely as a result of this virus, the number of commercial hogs processed in 2014 decreased by more than 5.2 million (a 4.64 percent decline) from 2013. Lee L. Schultz & Glynn T. Tonsor, *Assessment of the Economic Impacts of Porcine Epidemic Diarrhea Virus in the United States*, 93 J. Animal Sci. 5111, 5111-13 (Nov. 2015).

Not surprisingly, the PED virus also upended the hog market. The average price of a weaned pig increased from $40.83 in 2013 to $59.47 in 2014 (before it went back down to $37.93 in 2015). Similarly, the average price of market hogs in Iowa and Minnesota increased from $86.77 per cwt. (i.e., 100 pounds) in 2013 to $100.67 per cwt. in 2014 (reaching a high of $115.78 per cwt. in April 2014) before dropping to $68.98 per cwt. in 2015. These market disruptions reflect that dramatic impact that the outbreak of the PED virus had on the supply weaned pigs and market hogs during this time period. Iowa State Univ Extension, *Historical Hog & Lamb Prices*, available at https://www.extension.iastate.edu/agdm/livestock/pdf/b2-10.pdf (last updated Feb. 2021).

Given the threat that disease outbreaks pose to their animals, hog farmers invest significant resources to maintain the biosecurity of their farms. Because many viruses can be introduced to a farm by people (either directly or from particles attached to their boots, clothing, or vehicles), most sow farms implement strict biosecurity procedures that restrict

visitors and vehicles entering the farm to essential personnel and, even for these people, require that the person have been away from all other swine for at least 24 to 48 hours—and in some cases as much as 72 hours—before entering the farm. These farms also require authorized visitors to shower into and out of the barn, where clothing is provided by the farm (after the shower), and visitors cannot bring any outside supplies or materials (e.g., paper, pens, cameras) into the barn. *See* Laura Valeria Alarcón, Alberto Allepuz, & Enric Mateu, *Biosecurity in Pig Farms: A Review*, Porcine Health Management, Mar. 2021, at 4-5. Because the spread of ASF across the United States would be catastrophic to animal health, the food supply, hog producers and their communities, and the economy, the USDA is encouraging hog farmers to "follow strict biosecurity practices" to help prevent an outbreak of ASF in the United States. *See* USDA Animal & Plant Health Inspection Serv., *African Swine Fever*, https://www.aphis.usda.gov/aphis/ourfocus/animalhealth/animal-disease-information/swine-disease-information/african-swine-fever/african-swine-fever (last modified Oct. 19, 2021).

In this context, the proposed rules by which California intends to implement Proposition 12—and, in particular, the requirement that each sow farm be inspected by a certifying agent accredited by California at least annually (*see* Pet. App. 128a-129a)—poses an extreme risk of spreading animal diseases among hog farms and decimating hog production in the United States through disease outbreak. Unlike existing laws in Iowa, *see* Iowa Code §§ 459.304(6), 459.601(3), the regulations by which California pro-

poses to implement Proposition 12 do not require inspectors to follow the farm's normal biosecurity requirements. Given the number of inspections that will be needed to implement the law, it is highly questionable (to be charitable) that California could find a sufficient number of inspectors to comply with biosecurity requirements and performed the inspections it seeks to require.

But even if the biosecurity requirements were followed, the mere fact of inspectors regularly traveling from sow farm to sow farm to perform these invasive inspections poses a significant risk of spreading diseases. Recognizing this threat, and even though it has statutory authority to enter livestock buildings if a farm's normal biosecurity requirements are followed, the Iowa Department of Natural Resources adopted a Standard Operating Procedure stating that "due to biosecurity and safety concerns, inspectors will not enter confinement buildings." Iowa Dep't of Natural Resources, *Confinement Facility (non-NPDES) On-Site Inspection Standard Operating Procedure* 2 (Sept. 11, 2013) (available under Work Plan Agreement, Materials, & Reports at https://iowadnr.gov/Environmental-Protection/Animal-Feeding-Operations/AFO-Resources-and-Regulations.

This threat to animal welfare and the security of our food supply presents another compelling reason for this Court to grant certiorari review of the Ninth Circuit's decision.

CONCLUSION

For the foregoing reasons, amici curiae respectfully request that this Court grant the petition for a writ of certiorari in this case.

Respectfully submitted,

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APPENDICES

APPENDIX A

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RE: Proposed for adoption – Chapter 10, "Animal Confinement," of Division 2 of Title 3 of the California Code of Regulation

Dear Dr. Cox:

These comments are submitted on behalf of the American Association of Swine Veterinarians (AASV). On behalf of our 1300 members involved in veterinary practice, industry, and academia, we strive to increase the knowledge of swine veterinarians, protect and promote the health and well-being of pigs, advocate science-based approaches to veterinary, industry, and public health issues, and promote the development and availability of resources that enhance the effectiveness of professional activities.

It is the position of AASV that given the variability inherent in different housing systems, we support the use of sow housing configurations that provide every animal with access to appropriate food and water; protect sows and piglets from detrimental effects associated with environmental extremes, particularly temperature extremes; reduces exposure to hazards that result in disease, pain or injury to sows or piglets; allow sows and piglets to express appropriate behaviors and minimize expression of inappropriate behaviors within the constraints of the housing type; minimize aggression and competitions between sows; promote good air quality and allow proper sanitation; and facilitate evaluation and care of individual animals while protecting worker safety. As such, the AASV supports the definition of "individual treatment" as provided in Article 4, Section 1324. The proposed language allows veterinarians the freedom to use their professional judgment when assessing and addressing the health and welfare of breeding pigs. This flexibility allows for management of breeding pigs including segregation if sows become injured to allow their recovery, to prevent fighting that places the sows or farm workers at risk especially post weaning when sows are first forming new groups, or if sows prematurely return to estrus. Additionally, we support that the proposed definition of "individual treatment" relies on the existing veterinarian-client-patient relationship (VCPR). Under this established VCPR, pork producers are allowed to administer treatments as indicated by their veterinarian.

Inclusion and recognition of the VCPR in the proposed definition would extend the use of this established relationship and allow flexibility for veterinarians and producers to implement and comply with this regulation.

The AASV does have concerns about sections of Article 5, specifically those defining the frequency of on-site inspections, the possibility of unannounced inspections, and accreditation of certifying agents. There were 66,439 swine operations across the United States in 2017 (USDA 2017 Agriculture Census) and the total breeding herd inventory has increased by almost 100,000 sows in the years since. The number of swine operations does not account for entities that have multiple independent sites. It is critical to understand the scope of the swine industry and, therefore, the scope of operations that may request certification under this rule.

Biosecurity is an essential component for protecting swine health. Veterinarians are committed to protecting swine health for the welfare of the pigs, the economic livelihood of their clients, and food safety and security of the United States. Introduction of an animal disease on a sow farm can have devastating effects on the animals and their caretakers and can contribute to significant economic loss for a farm. For example, porcine reproductive and respiratory syndrome (PPRS) [sic] is the costliest disease currently affecting the US swine industry with estimated financial damage over $600 million annually. Impacts on pig health and welfare include

increased morality [sic], increased reproductive losses, and decreased growth rates. Any introduction of a foreign animal disease into a pig herd would be economically devastating for all of agriculture. Studies led by Dr. Dermot Hayes, economist at Iowa State University and at the Center for Agriculture and Rural Development Food and Agriculture Policy Research Institute, have estimated revenue losses across agricultural commodities resulting from the introduction of foot-and-mouth disease (FMD), classic swine fever (CSF), and African swine fever (AFS). The introduction of FMD would result in $199.9 billion cumulative revenue losses across the commodities modeled over a 10-year period including $57 billion for pork, $71.2 billion for beef, $0.98 billion for poultry, $44 billion for corn, $24.9 billion for soybeans, and $1.8 billion for wheat. Revenue losses to the pork, corn, and soybean industries resulting from the introduction of CSF would be $51 billion, $28.4 billion, and $16.8 billion, respectively with $92.6 billion cumulative revenue losses across the commodities modeled over a 10-year period. The first year of an ASF outbreak, revenue loss would be $8 billion for pork, $3 billion for beef, $4 billion for corn, and $1.5 billion for soybeans. It would take over 10 years for these impacted commodities to approach pre-outbreak commodity prices; a devastating reality for the entire US farm economy.

People can transfer pathogens on their body and clothing to pigs. Vehicles and equipment can also carry pathogens. Swine facilities are designed specifically to reduce the introduction of pathogens

and farms have implemented protocols that limit who and what, how and when individuals, vehicles, and equipment are allowed enter the farm. Biosecurity standard operating procedures include steps to require all visitors park away from the facility, have physical barriers such as showers prior to farm entry, require farm specific clothing and footwear, disinfection protocols for equipment that is allowed to enter the farm, and requiring downtime away from pigs or pig facilities for visitors prior to entry. The industry minimum of pig-free downtime before farm entry is at least 24 hours, 48 hours if the visitor has traveled internationally and had contact with livestock, and at least 5 days if the visitor has traveled internationally to a country with foot-and-mouth disease. The required pig-free downtime often increases for sow sites, especially nucleus or multiplier herds, depending on the farm's herd health status. With biosecurity requirements in mind, 1 certifying agent could realistically only visit 3 pig sites per week, and likely fewer sow sites practically speaking. Requiring certified sites to have on-farm inspections every 12-months would necessitate roughly 400 certifying agents for the pig industry alone, an experienced workforce (as defined in Section 1326.10) that does not exist and would limit the ability of producers to become certified and eligible to enter the supply chain.

Unannounced visits also raise concerns for compliance with biosecurity protocols. Each farm establishes their unique biosecurity protocols and downtimes based on the health status of the herd.

Certifying agents must be able to contact the farms they intend to visit prior to arrival to be able to comply with their biosecurity protocols. This cannot be accomplished with unannounced inspections. An additional concern with unannounced inspections on nursery and grow-finish sites would be the presence of the owner or a caretaker on the site during the visit. It is not uncommon for someone to only be present at the site a few hours during the day to conduct daily caretaker duties and facility maintenance. A certifying agent will not be granted unsupervised access to a facility for either announced or unannounced inspections.

The American Association of Swine Veterinarians appreciates the opportunity to comment on the proposed Chapter 10. Animal Confinement. We strongly urge CDFA to address the concerns around biosecurity to ensure the swine industry can continue to protect public and swine health and the security of the nation's food supply.

Sincerely,

/s/ Sherrie Webb
Sherrie Webb, MSc
Director, Animal Welfare
American Association of Swine Veterinarians

APPENDIX B

California's Proposition 12 and its Impacts on the Pork Industry[11]

May 13, 2021

Barry K. Goodwin, Ph.D.

Executive Summary

This report provides a high-level overview of issues surrounding California's Proposition 12, which is set to take effect on January 1, 2022. Among other things, the proposition imposes new space requirements for breeding sows. All pork sold in California, with few exceptions, must be sourced from the offspring of sows that have been provided at least 24 square feet of usable floor space for each sow, regardless of where the hogs are produced. Because California produces only a small amount of the pork sold there, the proposition will impose space requirements on hog producers across the nation. The cost of these restrictions are widespread and extensive. Farmers face the cost of renovation or the construction of new facilities. Farmers will also face losses in productivity as they move to new production and management systems. This lost productivity will

[11] Research report furnished to the National Pork Producers Council. The views and opinions expressed here are solely those of the author and do not represent views or opinions of any other organization, regardless of affiliation.

be especially acute in the short run, as the new systems are mastered. The new production systems will lead to increased stress on breeding sows, which in turn will lead to lower fertility and embryo survival rates. The industry must maintain identity preservation and market segmentations. This will involve considerable changes in the logistics of pork product distribution. These costs will have a more severe impact on smaller, independent operations. These operations tend to be less efficient and have lower profit margins. Smaller operations also have less access to the credit needed to finance renovations and new construction. Thus, one important outcome of Proposition 12 will be an increase in the exist of smaller hog operations. The pork industry will become more concentrated with fewer but bigger farm operations. The stresses placed upon the entire production and marketing chain will also favor larger processors, thereby leading to ever-increasing consolidation and concentration of the industry.

California's Proposition 12 and its Impacts on the Pork Industry

Proposition 12, the "Prevention of Cruelty to Farm Animals" Act, was approved by California voters in 2018 and its provisions for hogs are set to become effective on January 1, 2022. The Act proposes to "prevent animal cruelty by phasing out extreme methods of farm animal confinement, which also threaten the health and safety of California consumers and increase the risk of foodborne illness associated negative fiscal impacts on the State of

California." The new regulations mandate that all pork sold in California, with limited exceptions, must be sourced from the offspring of sows that have been provided at least 24 square feet of usable floor space for each sow. Enclosures must be sufficiently large enough to allow the sows to turn around without touching the sides of the enclosure. The regulations apply to any breeding pigs over 6 months of age and to all whole pork meat marketed in the state, regardless of where it was produced. The restrictions given in draft versions of regulations exclude comminuted products containing more than just pork and pork used in processed food products.

A limited number of exemptions apply to Proposition 12. The restrictions do not apply for animals involved in transportation, research, during individual treatments, and at slaughter. The space requirements are also waived for 5 days prior to the expected farrowing date, while sows are nursing, and temporarily during breeding activities. The breeding activity exemption is limited to a maximum of 6 hours per day, not to exceed 24 total hours over a 30-day period. The limited nature of these exemptions has important implications for breeding, farrowing, and nursing efficiency. These restrictions will decrease the effectiveness of insemination services and will diminish the overall health of recently farrowed piglets. In a presumed effort to improve the welfare of sows, animals will be intermingled to a much greater degree than is currently the practice. As is true of most livestock animals, efforts to establish

social dominance when put into groups will lead to increased morbidity and mortality.

At present, California has a population of 39.5 million people, or about 12% of the US population. In 2020, California had a hog inventory of about 99,000 head. In comparison, the US had a hog inventory of 77.3 million head, implying that California only has about 0.12% of the nation's total hog and pig inventory.[12] California represents a growing market, with its population expanding by 6.1% between 2010 and 2019.

The consumption of pork products is not homogeneous across different ethnic groups. Figure 1 illustrates total expenditures on pork products by different demographic groups in the US. Consumption is especially high for Hispanic and Asian ethnic groups. California's population is diverse and ever evolving, with Hispanics and Latinos accounting for 39.4% of the population and Asians accounting for 15.5% of the population.[13] These factors reinforce the importance of California as a destination market for pork products produced across the US. Nearly all pork consumed in California is produced outside of the state.

At present, it is estimated that only about 4% of existing US hog farm facilities currently conform to

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[12] Statistics taken from the USDA's National Agricultural Statistics Service quick stats database.

[13] Population statistics taken from the US Department of Commerce's Census Bureau.

the Proposition 12 space requirements.[14] The industry standard sow housing stalls currently averages 18-20 square feet. If Proposition 12 withstands ongoing court challenges, the US pork industry will be subject to significant disruptions and adjustments, requiring extensive renovation or new construction to provide facilities that conform to the proposition's requirements.

The North American Meat Institute (NAMI) has filed a petition challenging the constitutionality of the proposition. The National Pork Producers Council, working jointly with the American Farm Bureau Federation, has also filed suit challenging the constitutionality of the proposition.[15] These challenges are in part based upon presumed violations of the Commerce Clause of the US Constitution, where it is argued that California's regulations have a negative impact on the interstate commerce of other states. The regulations will also create obstructions to competition from pork producers outside of California. The petition has been supported by 20 states, who have filed amicus curiae briefs in support of the litigation. On February 26, NAMI filed a petition with the US Supreme Court to overturn Proposition 12.

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[14] See McCracken, C. "US Pork Supply Chain Locked in Limbo as Producers Await Legal Ruling," Rabobank Research, February 2021.

[15] See North American Meat Institute v. Becerra (October 4, 2019) and National Pork Producers Council v. Ross (December 5, 2019).

California's Proposition 2, which expanded space requirements for egg-laying hens, withstood similar legal challenges. As Proposition 2 demonstrated, these propositions most certainly have impacts on interstate trade and the methods of production in other states. The prominence of cage-free egg production rose substantially across the US as egg producers undertook structural changes to accommodate the space requirements.

The objection of this article is to review the impacts and estimate the costs associated with implementation of Proposition 12. Many of these costs, such as the costs associated with renovation of existing facilities and construction of new facilities, are apparent. However, other costs that will affect the pork industry are less obvious. For example, I have noted the potential impacts that the new space requirements will have on the efficiency of breeding and the physical well-being of sows. Many of these costs have been considered in existing evaluations of Proposition 12.

However, other subtle cost changes have received less attention in the existing studies of Proposition 12. To the extent that the Proposition creates a bifurcation of the market with pork products segmented into those that are compliant and those that are not, the entire marketing chain from processors to retailers will be tasked with preserving the identity of pork products and effectively segmenting the market to identify those products that are compliant from those that are not. Past efforts at

preserving the identity of differentiated basic commodities such as corn and rice have proven to be both expensive and difficult to maintain. These costs have both short run and long run implications. If the proposition withstands ongoing legal challenges, a likely outcome in the long run will be widespread adoption of production practices that conform to Proposition 12. Because such changes necessarily apply to long-lived assets in the form of production facilities, full adjustment of the industry to Proposition 12 is likely to take several years.

The Cost of Proposition 12

Proposition 12 will bring about fundamental changes in the structure of the US pork industry. Although ongoing litigation is attempting to overturn the restrictions imposed by the proposition, consumers in some states, with California being a leading example, are becoming increasingly sensitive to animal welfare issues. However, consumers may not fully comprehend the nature of livestock production systems or the likely impacts of legislated actions meant to improve animal welfare.[16] As existing facilities are replaced as a normal course of business, it is likely that new designs that conform to the types of animal welfare considerations reflected in

[16] Proposition 12 also imposes space requirements for veal calves (43 square feet) and egg-laying hens (1 square foot). The support of consumers for any specific restriction, such as that applying solely to hogs, is unclear and it is possible that consumer concerns about specific production practices may be dominated by only certain types of animals, such as veal calves and hens.

Proposition 12 will be implemented, even in the proposition is overturned.

A major source of the costs of adjustment to such regulatory changes relates to the uncertainty that these changes introduce to the industry. We are months away from the intended implementation of Proposition 12 and many details regarding implementation remain uncertain. Uncertainty, by its very nature, introduces tangible costs to any business operation. Alongside efforts to have the restrictions overturned are several ongoing attempts to delay implementation of the space requirements. Many farmers and much of the industry are hesitant to commit to such fundamental changes if the likelihood and timing of the space requirements are unclear.

Renovation and New Construction Costs

Renovation and new construction represent major irreversible commitments requiring very significant investments. These costs are exacerbated by the very active nature of construction industries in the US. Building material costs have risen significantly in recent months as the US economy emerges from pandemic quarantines. A recent (March 17, 2021) *Wall Street Journal* article noted that lumber prices are currently twice the level of typical prices for this time of year.[17] Crude oil, which

[17] R. Dezember and M. Quiroz-Gutierrez, "New Houses Are Costing More as Prices Jump for Wood, Bricks," *Wall Street Journal*, March 17, 2021, available online at

is an important ingredient in many construction materials, has risen by over 80% since October of 2020. Over the same period, copper, which plays an important role in water and power services, has increased by 33%. Concrete prices have reached record levels in the last month. Figure 3 contains the US Department of Commerce's construction price index. The significant increases in the cost of new construction are apparent.

An important but less obvious cost associated with renovating or constructing hog facilities arises from the irreversible nature of construction. That is, in addition to the obvious cost of materials, any new construction imposes a loss of option value for the investor. If the restrictions associated with Proposition 12 are changed at some future date, it is possible that facilities that were made to be compatible with Proposition 12 may not satisfy the new requirements.[18] Further to this same point, because the imposition of restrictions always has negative impacts on efficiency, relaxing of the restrictions may leave producers that did invest in new facilities at a competitive disadvantage.[19]

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https://www.wsj.com/articles/commodities-boom-hits-home-11615973404 (accessed April 15, 2021).

[18] For example, Rule 901:12-9-02 of the Ohio Administrative Code requires group housing for all pregnant sows by 2025 but allows for breeding sow placement in individual stalls until pregnancy is confirmed. Farmers have transitioned to the new standards in facility design, but their new facilities will not satisfy the requirements of Proposition 12.

[19] An important engineering result—the Le Chatelier Principle—holds that the imposition of restrictions on a profit-

The cost of converting new facilities to conform to the Proposition 12 requirements have been estimated by industry experts to be between $8-$12 per pig. Construction of a new facility covering the farrow to wean period of production has been estimated to be about $3,000 per sow. About 75% of that cost is associated with the facility while 25% applies to land and infrastructure. These costs vary substantially by the size of the operation. The $3,000 per sow estimate applies to an operation size of 5,200 sows. However, smaller operations will pay considerably more per animal. A farm of 1,000 animals will have costs that are about 15% higher per animal. These costs are about 10% higher for a farm of 2,600 sows. This suggests that construction of a new facility that will allow 5,200 hogs to have the space requirements mandated by Proposition 12 will cost $15.6 million (Herring, 2021).[20]

The differences in construction costs across different sized hog farms have important implications for how the industry will be impacted by Proposition 12. Smaller farms will be more constrained by access to capital and thinner margins. Figures 4 through 6 illustrate some important differences in the financial situations of different sized hog farms.[21] The USDA

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maximizing producer will almost always lead to lower profits (or at least no higher profits).

[20] Cost estimates obtained through personal communication via email with David Herring, Vice President of Hog Slat Incorporated, on April 11, 2021.

[21] Statistics taken from the ARMS Data Analysis Resource (https://my.data.ers.usda.gov/arms/data-analysis).

segments farms according to annual sales. The diagrams illustrate financial conditions for the following categories of total annual farm sales—less than $100,000, $100,000-$249,000, $250,000-$499,000, $500,000-$1 million, and over $1 million. The farms considered are those for which their principal designation is as a hog farm, meaning that the largest share of farm's value of production is attributable to hogs.

The financial condition of a business operation is heavily influenced by the availability and cost of borrowed capital. Figure 4 illustrates the leverage position (total debts over total assets) in the top panel and the rate of return to equity in the bottom panel. Each portion of the panels represent the development of financial indicators across different economic classes of farms and the green bar represents the average value over the 1995-2019 period. The first block applies to all farms and then moving left to right, across increasingly larger (by sales) classes of farms.

Hog operations tend to be much more highly leveraged than is the case for other types of farms. According to the Economic Research Service of the USDA, the debt to assets ratio for all US farms averaged about 13.6% in 2019. In contrast, the 2019 debt to asset ratio for farms specializing in hog production is 19.5%. This demonstrates the fact that hog farms tend to be more highly leveraged than farms in general and that the leverage ratio tends to increase with farm size. This is not surprising in that

the high debt to asset ratio reflects the fact that hog farm facilities require a substantial up-front capital investment and therefore hog farms require borrowed capital to a greater degree than farms in general.

The lower panel of Figure 4 contains the rate of return to equity for hog farms of various economic classes. The return to equity on hog farms tends to be progressively lower for smaller farms, as reflected in the value of production. This suggests that smaller farms realize a lower return to investments and therefore will likely realize less favorable terms of credit. This has important implications for the ability of farms to undertake the significant capital investments that conformity to Proposition 12 would require.

Figure 5 presents net farm income and the farms' operating profit margin. Again, the financial standing of smaller farms tends to be much less favorable than is the case for larger farms. The drop is especially substantial when considering the smallest category of farms—those with annual sales of less than $100,000. This smallest category of farms tends to have net incomes that are close to zero and operating profit margins that are significantly negative. Again, this suggests that the smallest hog farms will be the least able to undertake the changes that would make facilities conformable to Proposition 12.

Finally, we consider two measures of hog farm efficiency. The first is given by the ratio of net cash income to total cash expenses. The second focuses on

feed efficiency and is given by the ratio of livestock sales to total feed expenditures. In both cases, the smallest category of farms tends to be significantly less efficient, both in terms of the total operation and in terms of feed efficiency. Overall farming efficiency tends to be moderately higher as farm size increases. In contrast, feed efficiency is smaller across all economic classes of hog farms except for the smallest farms, which are substantially less efficient.

The review of hog farm financial conditions provides several important insights that are all consistent in the implication that smaller farms will be impacted much for significantly than larger hog farms. The statistics reveal that hog farms are much more highly leveraged than farms in general and therefore are more dependent on credit markets for the survival. Adopting production processes and methods that are compatible with the requirements of Proposition 12 will require substantial access to borrowed capital. As noted above, the total investment involved in the construction or renovation of facilities that conform to the space requirements will be several million dollars, making access to credit a critical variable in the long-run survival of hog farms. Creditors will consider these financial ratios and variables when evaluating loans and these evaluations are likely to be especially negative for the smallest hog farms. These farms have the lowest relative incomes and profit margins. The statistics also demonstrate that the smallest farms tend to be significantly less efficient, both in terms of overall

returns over expenses and in terms of the efficiency of hog feeding.

These economic facts have important implications for how California's Proposition 12 is likely to impact the US hog sector. The increasing concentration of the US meat processing sector has been a concern often noted in Congressional rhetoric. As a rule, this sector has become increasingly concentrated. Likewise, concern over the economic viability of small and limited resource farms continues to be an important factor shaping US agricultural policy. The sectoral changes that Proposition 12 is likely to trigger will be unfavorable for smaller hog farms, who will have less access to credit and who will be less able to undertake the investments necessary to bring facilities into compliance with the space requirements of the proposition. This will hasten the concentration of the hog industry, with smaller farms exiting the sector, leaving a US hog industry that has fewer but larger farms. Those farms with thin margins, which tend to be the smallest operations, will be the first to exit the industry. Likewise, efficiency differences that favor larger operations will play a role in smaller farms being the first to exit the industry.

According to the 2017 *Agricultural Census*, there are 58,180 independent hog farmers. These independent hog farmers had 24.9 million hogs in inventory. Contractors/integrators and contract growers numbered 8,259 and had 47.5 million hogs in inventory. Independent growers will more than 2,000

hogs numbered 2,462 and had 22.2 million hogs in inventory. In contrast, of the farms operated by contractors or contractees, 5,862 farms had 2,000 or more hogs in inventory and accounted for 29 million hogs. These statistics demonstrate that hog farms with production contracts tend to be larger and account for a larger share of hog production (inventory) than independent growers. It is likely that the processors/integrators will be driving force in encouraging facility changes that conform to the proposition. I have shown that larger farms tend to be more efficient and more profitable. Thus, an obvious inference to emerge from this consideration of the 2017 census statistics suggests that the proposition will likely push more farms to adopt production contracts. The proposition will therefore hasten the transition from independent to contract growers.

Reductions in Available Space

An obvious cost that will be borne by hog production pertains to the fact that an operation of a given size will suffer a reduction in output when facilities are renovated to make the necessary space available for sows. This space must be taken from existing uses. According to a recent report by Rabobank, if stocking density is reduced to meet the proposition's space requirements, production flows will drop by at least 25%.[22] This naturally implies a

[22] See McCracken, C. "US Pork Supply Chain Locked in Limbo as Producers Await Legal Ruling," Rabobank Research, February 2021.

reduction in herd sizes and a flood of new construction to meet the requirements. According to the Rabobank report, to comply with Proposition 12, at least 15% of US hog producers will need to convert to the new facility requirements.

These changes will bring about costs associated with lost stall space, which will reduce the overall output of facilities of a given size that choose to convert. The extent to which the processors and integrators agree to offer premiums for hogs grown under the new requirements will be a major factor in determining the adoption of the new production techniques.

Farm Productivity Declines

Although the space requirements are intended to improve the welfare of pigs and hogs, there are many reasons to be concerned that changes in sow housing arrangements will bring about added stress to the animals. The existing science does not support the intentions of the regulations—hogs will be worse off under the new restrictions. Mixing animals together, as would be common in many of the conversion scenarios, will induce stress as animals compete for dominance and feed. Animals are likely to fight, therefore causing increases in morbidity and mortality. This in turn will also negatively impact fertility and embryo survival rates. The requirements of the proposition have limited exemptions for sows undergoing breeding and this will necessarily increase the amount of time that sows are housed together.

Existing research has reached uncertain conclusions about the productivity penalties associated with group mixing of sows. However, existing housing arrangements represent the optimum, at least at the time the facilities were constructed. Therefore, there are reasons to conclude that productivity will suffer because of the proposition.

Productivity will also suffer because new production and management systems take time to master. David Herring of Hog Slat, the leading facility construction firm, estimated that production costs could increase by 5-8% in the short run, until the new techniques are mastered by producers.[23]

Regulatory Overhead

The adoption and enforcement of new regulations always involves additional regulatory costs. These costs will be borne by both producers and consumers of pork. The enforcement process remains unclear in many respects but is likely to involve auditors working as third parties or on behalf of the California Department of Food and Agriculture (CDFA), the regulatory agency responsible for enforcing the restrictions of the proposition. The CDFA and California State Department of Public Health has been jointly tasked with promulgating the rules and regulations for the implementation of the proposition. California's Health and Safety Code (HSC) Section 25993.1 states that a business owner or

[23] Personal communication via email, April 11, 2021.

operator must rely in good faith upon a written certification by their supplier that pork was not derived from an animal confined in a manner inconsistent with the proposition. The California code provides for a $1,000 fine and 180 days of incarceration for a violation of the proposition.

The current draft rule of the CDFA describes a certification process that will be carried out by the CDFA or by a certifying agent, who must be accredited by the CDFA. The regulations also require that each producer and handler of pork hold a valid certification and that any pork handler selling meat in California must be registered. The proposition requires that all shipping invoices, bills of lading, and shipping manifests for all shipments of whole pork meat entering the state or transported within the state for commercial sale in California shall include the statement "California 24+Compliant."

One can imagine that the proposition will create a new industry of third-party agents providing certification. This industry will certainly involve costs that will be borne by California pork consumers and producers providing pork to the California market. This regulatory overhead is commonly referred to as "deadweight costs" by economists. That is, costs that do not reflect benefits. From a scientific perspective, the welfare of hogs will not be appreciably improved by the restrictions and may, in fact, be diminished. California consumers and pork buyers elsewhere may realize some benefit from the knowledge that the pork that they are enjoying was derived from pigs that had

extra space. However, as previously noted, the restrictions also apply to egg-laying hens and veal calves and the precise motives underlying voters' intentions are unclear. Of course, third-party certification agents will benefit from the new demand for their services.

These costs will be shared by pork consumers, retailers, processors, and producers. It has been noted that a bifurcation of the market whereby pork commands a premium in California but is made cheaper outside of the state is likely to emerge in the short run. A considerable volume of pork that is currently shipped to California will instead by channeled to consumers in other states, thereby lowering the price outside of California. Likewise, considering the considerable volume of pork that is exported from the US, import markets may also realize lower prices.[24] High market segmentation costs (discussed next) will likely encourage widespread adoption of the standards as it may be cheaper overall to adopt the new standards for all pork than to maintain separate markets for certified and non-certified pork.

Market Segmentation Costs

A bifurcated marketplace necessarily means that different qualities of a commodity that may not be obvious to the consumer must be identified and

[24] The USDA's Foreign Agricultural Service (FAS) estimates that 26% of the projected US production of 12.8 million tons will be exported in 2021. See "Livestock and Poultry: World Markets and Trade," USDA-FAS, April 9, 2021.

preserved throughout the marketing chain. Pork produced from pigs raised on operations that satisfy the space requirements of Proposition 12 must be identified and kept separate throughout the entire marketing chain, from farm, to processor, wholesaler, and retailer. Any agent in the marketing chain must be able to identify and keep separate "certified" pork products. A concerned consumer must have confidence that the pork they are purchasing is sourced from operations that satisfy the space requirements. Outside of a package label, consumers have no way of discerning how the hogs that were processed into the pork products on grocery shelves were produced.

This type of identity preservation may be especially difficult and costly for operations that utilize bulk pork commodities. By their very definition, such bulk commodities are typically homogeneous in quality and may be highly processed prior to reaching the end consumer. Large-scale food service operations often purchase very large amounts of lower valued trim cuts which may be comingled from a variety of sources. For such operations, it will be costly to identify and segment pork derived from hogs produced under the restrictions of Proposition 12.

The difficulties associated with maintaining identity preservation have been demonstrated in the cases of corn and rice. A form of genetically modified corn, known as Starlink, was not approved for human consumption, and therefore had to be kept separate

from other corn hybrids. A similar case arose for MIR-162, a genetically modified corn hybrid from Syngenta that was not approved for sale in China. It provided impossible to prevent these corn hybrids from being comingled in the overall corn supply. Significant economic losses were realized by the companies that manufactured the corn seed as well as throughout the marketing chain. Prices to farmers dropped significantly when portions of the global market for commodity corn were closed due to comingling. Numerous product recalls occurred, and agents throughout the marketing chain realized significant economic loss due to the loss of important markets for corn and commodities that were made from corn.

Questions arise in such cases as to who carries the liability associated with violations of the regulations. It may be difficult to ascertain exactly who is responsible for the loss of identity preservation in cases of comingling or other inadvertent violations of the space requirements. The logistics associated with ensuring that all pork sold in California satisfies the proposition are complex. Such complexity adds to the basic costs of business for merchants selling pork in California and for processors and wholesalers supplying pork to California. It is difficult to assign a value to this additional logistical burden, but the costs are most certainly substantial.

Concluding Remarks

When Proposition 12 takes effect on January 1, 2022, pork sold in California must be sourced from sows that have at least 24 square feet of space in

breeding and finishing facilities. While the restrictions are to be implemented on this date, market impacts will be gradual as pork already in the marketing chain is gradually exhausted. The proposition will be costly to the production and marketing chain for pork in the US. At present, only about 4% of facilities satisfy the space requirements. The uncertainty surrounding the implementation and enforcement of the proposition has led to a "wait and see" attitude by many in the pork producing sector. Renovation and new construction costs run into several million dollars for the typical hog operation. Growers will need additional compensation to encourage the long-term investments that the proposition demands.

The impacts of Proposition 12 will not be homogeneous across all hog producers. In the short run, the market will be segmented and supplies of pork in California will be constrained. This will result from a shortage of compliant pork. At the same time, noncompliant pork that once was sold in California will be relegated to the rest of the US market, depressing prices of pork everywhere except California, where pork prices will rise substantially.

As I have noted, the extent to which consumers comprehend animal welfare issues and recognize the differences across different types of livestock and production systems is unclear. More specifically, consumers may not understand the nuances between different livestock animals and their space needs. As is often the case, regulatory initiatives that are

promoted by special interests may not be consistent with sound scientific evidence and the extent to which voters are able to separate emotional rhetoric from sound scientific evidence is unclear. New construction will likely consider the increased space requirement in new facility designs and in the long run much of the industry may become compliant with these restrictions.

The costs of the restrictions are widespread and extensive. Farmers face the costs of renovation or the construction of new facilities. Farmers are also likely to face losses in productivity as they move to new production and management systems. This lost productivity will be especially acute in the short run, as the new systems are mastered. The new production systems will lead to increased stress on breeding sows, which in turn will lead to lower fertility and embryo survival rates. The industry must maintain identity preservation and maintain market segmentations. This will involve considerable changes to the logistics of pork product distribution.

These costs will have a more severe impact on smaller, independent operations. As we have shown, these operations tend to be less efficient and have lower profit margins. Smaller operations also have less access to the credit needed to finance renovations and new construction. Thus, one important outcome of Proposition 12 will be an increase in the exit of smaller hog operations. The pork industry will become more concentrated with fewer but bigger farm operations. The stresses placed upon the entire

production and marketing chain will also favor larger processors, thereby leading to ever-increasing consolidation and concentration of the industry.

This document provides a high-level summary of the expected impacts of California's Proposition 12. Much greater research is needed to address the impacts of the proposition on heterogeneous farm operations, packers, wholesalers, and retailers. More in-depth empirical research is needed to quantify the impacts of the regulations and the long-term adjustments that the industry will realize. The costs of the proposition will be significant and will impact the entire marketing chain. The pork industry will become more concentrated with fewer but bigger farm operations. The stresses placed upon the entire production and marketing chain will also favor larger processors, thereby leading to ever-increasing consolidation and concentration of the industry.

[Figures 1-6 Omitted]