No. 21-468

IN THE

Supreme Court of the United States

NATIONAL PORK PRODUCERS COUNCIL, *et al.*,
Petitioners,

v.

KAREN ROSS, IN HER OFFICIAL CAPACITY AS SECRETARY OF THE CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE, *et al.*,
Respondents.

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

BRIEF FOR *AMICUS CURIAE* PHYSICIANS COMMITTEE FOR RESPONSIBLE MEDICINE IN SUPPORT OF RESPONDENTS

MARK KENNEDY
PHYSICIANS COMMITTEE FOR RESPONSIBLE MEDICINE
5100 Wisconsin Ave., NW
Suite 400
Washington, DC 20016
(202) 686-2210
mkennedy@pcrm.org

COREY PAGE
Counsel of Record
GENEVA PAGE
MATTHEW HAMITY
EVANS & PAGE
2912 Diamond Street
#346
San Francisco, CA 94131
(415) 896-5072
cpage@evansandpage.com

Counsel for Amicus Curiae

August 15, 2022

WILSON-EPES PRINTING CO., INC. – (202) 789-0096 – WASHINGTON, D.C. 20002

TABLE OF CONTENTS

TABLE OF CONTENTS—Continued

TABLE OF CONTENTS—Continued

TABLE OF AUTHORITIES

TABLE OF AUTHORITIES—Continued

TABLE OF AUTHORITIES—Continued

OTHER AUTHORITIES Page(s)

TABLE OF AUTHORITIES—Continued

TABLE OF AUTHORITIES—Continued

TABLE OF AUTHORITIES—Continued

TABLE OF AUTHORITIES—Continued

TABLE OF AUTHORITIES—Continued

TABLE OF AUTHORITIES—Continued

TABLE OF AUTHORITIES—Continued

TABLE OF AUTHORITIES—Continued

TABLE OF AUTHORITIES—Continued

INTEREST OF *AMICUS CURIAE*[1]

Physicians Committee for Responsible Medicine ("Physicians Committee") is a nonprofit public health organization that advocates for preventive medicine through proper nutrition, encourages higher standards for ethics and effectiveness in medical research, and designs and conducts clinical research, some federally funded, on the relationships between food, and disease.

Physicians Committee's research aims to develop and test practical interventions that can be used by doctors and patients. Conducted over the course of two decades, this research has demonstrated the benefits of a plant-based diet for health conditions such as weight loss and maintenance, cardiovascular disease, cancer, diabetes, and Alzheimer's disease. Physicians Committee's cancer prevention outreach began in 1991 and has grown steadily, culminating in a community-based nutrition education program that offers a cancer prevention curriculum and operates in 44 states, including California, where it has its largest representation.

Physicians Committee also educates the public about the effects of agricultural practices on public health. At the federal, state, and local level, Physicians Committee lobbies in support of stricter regulation of live animal markets, which give rise to organisms that might not cause disease in animal hosts but can be deadly to humans. Physicians Committee has funded education and outreach, such as billboards, encouraging

---

[1] Pursuant to Supreme Court Rule 37.6, no counsel for any party authored this brief in whole or in part, and no monetary contribution intended to fund the preparation or submission of this brief was made by such counsel or any party. This brief is filed with all parties' consent.

meat processing facilities to improve their worker safety protocols due to zoonotic disease exposure and risk. Physicians Committee has funded research evaluating the risk of zoonotic transmission of viruses to consumers via the meat packaging process. Physicians Committee has also challenged federal policies that allow chicken products containing fecal bacteria to pass inspection and be deemed "wholesome" for human consumption. *E.g., Physicians Comm. for Responsible Med. v. U.S. Dep't of Agric.*, No. 19-cv-1069-ESH (D.D.C. dismissed Aug. 22, 2019). More recently, Physicians Committee has taken steps to ensure that agricultural supply chain resiliency grants issued by state governments comply with the federal American Rescue Plan Act of 2021.

Physicians Committee is a national organization representing more than 175,000 members, including 12,000 physicians, as well as other medical professionals, scientists, and lay persons. More than 25,000 of Physicians Committee's members reside in California. *Amicus* therefore has a direct interest in the state-level health and safety goals of Proposition 12, the law at issue in this litigation.

INTRODUCTION AND SUMMARY OF ARGUMENT

Proposition 12 regulates the production of veal, pork, and eggs in California. Prevention of Cruelty to Farm Animals Act, Cal. Proposition 12 (Nov. 6, 2018), codified at Cal. Health & Safety Code § 25990 *et seq* ("Proposition 12"). It forbids the sale in California of pork meat from the hogs born of sows (female pigs) not housed in conformity with the law's requirements. The law requires that in California "a sow cannot be confined in such a way that it cannot lie down, stand up, fully extend its limbs, or turn around without

touching the side of its stall or another animal." This rule, known as the stand up-turn around requirement, "requires producers [in California] to house their sows together in a group, referred to as 'group housing.'"

While Petitioners argue that Proposition 12 has no legitimate local purpose, Petitioners fail to identify any precedent supporting their suggestion that courts properly assess the legitimacy of a state law's purposes when conducting an extraterritoriality inquiry, and for reasons explained by Respondents, their extraterritoriality claim fails in any event.

To the extent that the dormant Commerce Clause requires an examination of a state law's purposes, it does so only when the law is discriminatory, or when the law imposes a substantial burden on interstate commerce. Petitioners rightly concede that Proposition 12 is not discriminatory. Additionally, the law does not impose a substantial burden on interstate commerce, as the United States Supreme Court precedent is clear that any consumer price increase in California resulting from interstate producer compliance with Proposition 12 is not sufficient to constitute such a burden. Moreover, a litany of scientific studies demonstrates the health and safety benefits to Californians associated with Proposition 12's prohibition of intensive confinement of farmed animals. Since these health and safety benefits are not "groundless," the Court cannot find that any alleged burden on interstate commerce is clearly excessive in relation to Proposition 12's local benefits.

ARGUMENT

I. Proposition 12 Does Not Impose a Substantial Burden on Interstate Commerce

To invoke the *Pike* balancing test, the National Pork Producers Council and American Farm Bureau Federation ("Petitioners") must first show that the statute imposes a substantial burden on interstate commerce. *See Exxon Corp. v. Governor of Md.,* 437 U.S. 117, 125–29 (1978) (ending the dormant Commerce Clause analysis after determining the law did not impose a substantial burden on interstate commerce). Here, no *Pike* balancing test is necessary because Proposition 12 does not impose a substantial burden on interstate commerce.

Petitioners allege that the cost of compliance with Proposition 12 makes pork production more expensive nationwide, such that "producers will have to expend millions in upfront capital costs and adopt a more labor-intensive method of production." Pet.App. 18a. Specifically, Petitioners allege in their briefing, *but not in their complaint*, that compliance would result in a 9.2 % increase in production cost, which would be passed on to consumers. *Id.* Yet in their complaint, Petitioners contradict their own allegations of increased consumer prices nationwide, asserting that "markets" outside California "will not pay an increased price." Pet.App. 335a(¶19). Rather, "the effect on pork consumers outside California will be marginal," with a "0.3% decrease in the price of hogs that produce non-compliant pork, and a tiny 0.2% decline in the price of retail pork outside California." Agric. & Res. Economists Br. 6, 23.

Moreover, even assuming numerous interstate producers "withdraw entirely from the [California]

market," in turn raising consumer prices in California, such an increase falls short of qualifying as a *substantial* burden on interstate commerce under the dormant Commerce Clause. *See Exxon Corp.*, 437 U.S. at 128 (noting that even if "the consuming public will be injured by the loss of the high-volume, low-priced stations…that argument relates to the wisdom of the statute, not to its burden on commerce.").

II. If the Court Nonetheless Undertakes the *Pike* Balancing Test, Proposition 12's Alleged Burden to Interstate Commerce Does Not Clearly Exceed the Benefits of the Legislation

Proposition 12 protects California consumers from health and safety risks implicated by intensive confinement of farmed animals.

Petitioners themselves acknowledge that "a State has authority to regulate 'animals having contagious or infectious diseases.'" Brief for Pet. *National Pork Producers Council, v. Karen Ross,* No. 21-468 (U.S. June 14, 2022) at 41, quoting *Hannibal & St. J.R. v. Husen,* 95 U.S. 465, 471 (1877). California has reasonably decided to regulate just such animals by "phasing out extreme methods of farm animal confinement, which [] threaten the health and safety of California consumers, and increase the risk of foodborne illness." Prop. 12 §2; *see also McKiver v. Murphy-Brown, LLC,* 980 F.3d 937 (4th Cir. 2020) (Wilkinson, J., concurring) (recognizing that animal husbandry practices required to confine pigs in modern high-density facilities have dire consequences for not only the health and welfare of the animals but also for worker safety, food safety, and public health).

A. By Prohibiting Intensive Confinement of Farmed Animals in California, Proposition 12 Reduces the Risk of Zoonotic Disease for California Consumers

As the COVID-19 pandemic continues to threaten lives across the globe, experts and the public at large are looking ahead for ways to prevent another deadly disease outbreak. Many do not realize that the United States' own intensive farming practices also pose a pandemic risk. The majority of American livestock is raised in tightly packed and unsanitary conditions. These conditions cripple animals' immune systems, thereby increasing the risk that farmed animals will contract diseases that can spread to humans, i.e., "zoonotic diseases."

In the United States alone, over a million people have died of COVID-19, *see COVID Data Tracker: United States COVID-19 Cases, Deaths, and Laboratory Testing (NAATs) by State, Territory, and Jurisdiction*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://covid.cdc.gov/covid-data-tracker/#cases_casesper100klast7days (last visited Aug. 11, 2022) (detailing that the cumulative number of U.S. deaths attributable to COVID-19 was 1,003,800 as of June 5, 2022), and the disease will likely have lasting effects for years to come. But COVID-19, while unprecedented for our current era, is hardly the first disease of its kind. Diseases like Ebola, swine and avian flus, and SARS (severe acute respiratory syndrome) all originated in nonhuman animals. *See* Delia Grace Randolph, et al., United Nations Environment Programme, *Preventing the Next Pandemic: Zoonotic Diseases and How to Break the Chain of Transmission* 11, 13, 15 (2020), *available at* https://www.unep.org/resources/report/pre

venting-future-zoonotic-disease-outbreaks-protecting-environment-animals-and. In fact, zoonotic diseases account for three out of every four new or emerging infectious diseases that affect humans. *Zoonotic Diseases*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html (last visited Aug. 11, 2022).

Studies indicate that intensive confinement of farmed animals is a significant driver of the emergence of zoonotic diseases. Bryony A. Jones, et al., *Zoonosis Emergence Linked to Agricultural Intensification and Environmental Change*, 110 Proc. Nat'l Acad. Scis. U.S. 8399 (2013). The intensive confinement of large numbers of stressed farmed animals increases the risk of disease contraction and transmission among those animals and between animals and humans. *Id.* Examples of zoonotic epidemics caused by intensive production of farmed animals include the avian influenza virus H5N1 ("bird flu"), associated with intensive poultry farming, and the Nipah virus encephalitis outbreak originating from intensive pig farming. Kennedy F. Shortridge, et al., *The Next Influenza Pandemic: Lessons from Hong Kong*, 94 J. Appl. Microbiol. 70 (2003); Jonathan H. Epstein, et al., *Nipah Virus: Impact, Origins, and Causes of Emergence*, 8.1 Curr. Infect. Dis. Rep. 59 (2006).

In employing intensive farmed animal confinement methods, meat and egg producers externalize costs, with animals and consumers paying the hidden price through illness. For example, the Food and Drug Administration estimates that 79,000 Americans are sickened every year by consuming eggs tainted with *Salmonella*. Research shows that cage confinement facilities are significantly more likely to harbor this dangerous bacterium. According to an analysis by

the European Food Safety Authority, *Salmonella Enteritidis* contamination in cage-free indoor barns is 43% *less likely* than in cage production. *Report of the Task Force on Zoonoses Data Collection on the Analysis of the baseline study on the prevalence of Salmonella in holdings of laying hen flocks of Gallus gallus*, 5.2 EFSA Journal 97 (2007). The European Food Safety Authority analysis concluded, "Cage flock holdings are more likely to be contaminated with *Salmonella*." *Id.*

B. By Prohibiting Intensive Confinement of Sows, Proposition 12 Reduces the Risk of Zoonotic Pathogen Contamination All the Way to Slaughter, as Well as in Subsequent Retail Pork Sales, Thereby Reducing the Risk of Disease Transmission to California Consumers

The risk of zoonotic disease transmission is particularly high among intensively confined pigs. *See* W. Ma, et al., *The Role of Swine in the Generation of Novel Influenza Viruses*, 56 Zoonoses Public Health 326 (2009). Studies indicate that sows confined to gestation crates suffer "severe immunosuppression," as compared to sows in group housing who experience no significant change in immune response. Rossana Capoferri, et al., *Comparison Between Single-and Group-housed Pregnant Sows for Direct and Indirect Physiological, Reproductive, Welfare Indicators and Gene Expression Profiling*, 24 Journal of Applied Animal Welfare Science 246, 256 (2021). According to the Pew Commission on Industrial Farm Animal Production, intensive confinement of pigs, and gestation crates in particular, "induce high levels of stress in the animals and threaten their health, which in turn may threaten human health." *Putting Meat on*

the Table: Industrial Farm Animal Production in America, The Pew Commission on Industrial Farm Animal Production (April 2008). Indeed, it is "well-established that close confinement leads to the 'increased risk of the spread of disease' between hogs" and that "humans are not far behind." *McKiver v. Murphy-Brown, LLC*, 980 F.3d 937, 980 (4th Cir. 2020) (Wilkinson, J., concurring).

As discussed *infra*, *amicus curiae* American Association of Swine Veterinarians is flatly and demonstrably incorrect when it claims that (1) "[t]here is no evidence that disease prevalence in mature slaughter pigs has any relationship whatsoever to whether their mothers were housed in stalls," and (2),"there is no reason to think that such illness would be at all likely to evade detection and contaminate the human food supply." Brief for the American Association of Swine Veterinarians as *Amicus Curiae*, p. 20-21.

1. *Gestation crates increase the risk of zoonotic pathogens in piglets*

Studies have found that when sows are confined to gestation crates, *their piglets* are more susceptible to disease as well, further exacerbating the risk of zoonoses. *See* Xin Liu, et al., *A Comparison of the Behavior, Physiology, and Offspring Resilience of Gestating Sows When Raised in a Group Housing System and Individual Stalls*, 11 Animals 2076, 2076 (2021). In fact, a mere five minutes a day of maternal stress from restraint in gestation crates over the last five weeks of sows' pregnancies can undermine the development and function of their piglets' immune systems. *See* Margaret Tuchscherer, et al., *Effects of Prenatal Stress on Cellular and Humoral Immune Responses in Neonatal Pigs*, 86 Vet. Immunol.

Immunopathol. 195, 195 (2002). Stress experienced by sows in gestation crates decreases the antibody concentration in their suckling piglets, such that piglets from sows with freedom of movement are "healthier" and have "better disease resistance and resilience." Liu, et al, *supra.* Moreover, "epidemiological data suggest that individual housing during pregnancy may increase the transmission of pathogens from the mother to the fetus or neonate." Elodie Merlot, et al., *Prenatal Stress, Immunity and Neonatal Health in Farm Animal Species,* 7 Animal 2016, 2020 (2013). Studies have shown, for example, that the risk of the zoonotic pathogen *Campylobacter* contamination in piglets is increased significantly when sows are confined in gestation crates. *See* Martine Denis, et al., *Campylobacter from Sows in Farrow-to-Finish Pig Farms: Risk Indicators and Genetic Diversity*, 154 Veterinary Microbiology 163, 166 (2011).

2. *Zoonotic pathogens in piglets may persist undetected all the way through slaughter and subsequent retail pork sales*

Examples abound of zoonotic pathogens that piglets asymptomatically carry all the way through slaughter, resulting in retail sales of contaminated pork. This includes, for example, *Campylobacter*. *See* Jae-Ho Guk, et al., *Hyper-Aerotolerant Campylobacter Coli from Swine May Pose a Potential Threat to Public Health Based on Its Quinolone Resistance*, Virulence Potential, and Genetic Relatedness, 12 Front. Microbiol. 1, 2 (2021). As a U.S. Department of Agriculture (USDA) study concluded, "The important finding in this study is that piglets all probably become colonised with *Campylobacter* within a few hours of birth on the breeding farms" and that "nearly all pigs remain carriers [of *Campylobacter*] until slaughter." C.R.

Young, et al., *Enteric Colonisation Following Natural Exposure to Campylobacter in Pigs*, 68 Res. Vet. Sci. 75, 77 (2000). Indeed, a previous study found that more than 85% of sampled pigs infected early in life continued to be intestinal carriers of *Campylobacter* at slaughter. M. J. B. M. Weijtens, et al., *Prevalence of Campylobacter in Pigs During Fattening; an Epidemiological Study*, 15 Veterinary Quarterly 138, 138 (1993). Importantly, pigs "only become sub-clinically infected with *Campylobacter*," meaning they do not show symptoms of the infection and therefore the contamination would likely go undetected at inspection. Guk, et al, *supra,* at 2. Unsurprisingly then, *Campylobacter* in pork is estimated to cause more than 37,000 infections each year in the United States. Robert L. Scharff, *Food Attribution and Economic Cost Estimates for Meat- and Poultry-Related Illnesses*, 83 J. Food Prot., 959, 966 (2020).

Salmonella, and *Yersinia* too, are carried by piglets asymptomatically all the way through slaughter (both of which present as an increasingly antibiotic resistant human health threat). *See* Andrew A. Hill, et al., *A Farm Transmission Model for Salmonella in Pigs, Applicable to EU Member States*, 36 Risk Analysis 461 (2016) (pointing to "one overwhelming conclusion:" the fact that "breeding herd prevalence [of *Salmonella*] is a strong indicator of slaughter pig prevalence. Until a. . . [country's] breeding herd prevalence is brought below 10% then the sow will be the dominant source of infection to pigs raised for meat production."); Juho Koskinen, et al*., Prudent Antimicrobial Use is Essential to Prevent the Emergence of Antimicrobial Resistance in Yersinia Enterocolitica 4/O: 3 Strains in Pigs*, 13 Front. Microbiol. 1, 5 (2022). A 2019 report by the National Antimicrobial Resistance Moni-

toring System showed the highest level of *Salmonella*-positive retail pork since testing first began in 2002. National Antimicrobial Resistance Monitoring System, 2019 Integrated Report Summary, U.S. Food and Drug Admin., *available at* https://www.fda.gov/animal-veterinary/national-antimicrobial-resistance-monitoring-system/2019-narms-update-integrated-report-summary-interactive-version (last visited Aug. 11, 2022). Similarly, in 2012, *Consumer Reports* found *Yersinia* on 69% of retail pork samples. *See* Pork Chops and Ground Pork Contaminated with Bacteria, *Consumer Reports* (Jan. 2013) *available at* https://www.consumerreports.org/cro/magazine/2013/01/what-s-in-that-pork/index.htm. Californians continue to suffer increasing rates of *Yersinia* infections, with the incidence tripling between 2014 and 2019. Kirsten Knutson, et al., *Epidemiologic Summary of Yersiniosis in California, 2013 – 2019*, California Department of Public Health (Dec. 2021), *available at* https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/YersiniosisEpiSummary2013-2019.pdf.

Methicillin-resistant *Staphylococcus aureus* (MRSA) presents yet another public health threat that can travel from sow to piglet to slaughter asymptomatically. Once piglets are MRSA-positive, they remain so, "demonstrating stable and long-lasting colonization." Giuseppe Merialdi, et al., *Livestock-Associated Methicillin-Resistant Staphylococcus Aureus (LA-MRSA) Spa Type T127, Sequence Type (ST) 1, Quickly Spreads and Persists Among Young Pigs*, 77 Pathogens and Disease 1, 3 (2019). A study found that MRSA contaminates 2% of retail pork sales in the United States. Beilei Ge, et al., *MRSA and Multidrug-Resistant Staphylococcus Aureus in US Retail Meats, 2010–2011*, 62 Food Microbiol. 289, 289 (2017).

Hepatitis E, too, may persist from birth to slaughter. Yuta Kanai, et al., *Long-Term Shedding of Hepatitis E Virus in the Feces of Pigs Infected Naturally, Born to Sows With and Without Maternal Antibodies,* 82 J. Med. Virol. 69, 74 (2010). In California, 45% of retail pork liver samples collected in 2018 were positive for hepatitis E virus. Thais De Melo Ramos, et al., *Presence of Hepatitis E Virus in Commercially Available Pork Products*, 339 International Journal of Food Microbiology 109033 (2021).

C. By Prohibiting the Intensive Confinement of Pigs in California, Proposition 12 Will Reduce Pork Producers' Use of Antibiotics, Which Will in Turn Reduce the Number of Antibiotic-Resistant Infections in California Consumers

Given the high rate of disease among intensively confined farmed animals, producers routinely treat the animals with antibiotics, the use of which has significantly contributed to a growing number of antibiotic-resistant infections in humans. *See* Michael J. Martin, et al., *Antibiotics Overuse in Animal Agriculture: A Call to Action for Health Care Providers*, 105 Am. J. Pub. Health 2409 (2006). Scientific consensus holds that routine use of antibiotics in farmed animals contributes to antibiotic resistance in humans. *See* The Pew Commission on Industrial Farm Animal Production, *supra*; A.C. Tompson, et al., *Understanding Antibiotic Use: Practices, Structures and Networks*, 3 JAC-Antimicrob. Resist. 150 (2021).

On a pound for pound basis, more antibiotics are used in pork production than in the production of any other meat product. Thomas P. Van Boeckel, et al., *Global Trends in Antimicrobial Use in Food Animals*, 112 Proc. Nat'l Acad. of Sci. 5649, 5649 (2015). The

risk of transmitting antibiotic-resistant bacteria to humans is especially high from intensively confined pigs. As the Fourth Circuit notes, "The capacity for human care workers, their families, and residents of nearby communities to become infected with antibiotic-resistant microorganisms from swine CAFOs has long been documented [citation omitted]." *Id.*

There is ample evidence that gestation crates have negative health consequences that increase risk of infection and precipitate significant antibiotic usage, contradicting the claims of *amicus curiae* American Association of Swine Veterinarians' claims. *See* Brief for the American Association Of Swine Veterinarians as *Amicus Curiae*, p. 21. As the USDA's Livestock Behavior Research Unit notes, "[r]egarding health, it would appear that the balance of data shows sows in [gestation] stalls to have more problems [than those in groups]." Jeremy N. Marchant-Forde, *Sow Welfare Fact Sheet*, U.S. Depart. of Agriculture (Fall 2010), *available at* https://www.ars.usda.gov/ARSUserFiles/50201500/Sow%20Housing%20Fact%20Sheet.pdf. Specifically, per the USDA, "[l]ameness appears to be higher for sows in stalls, with lower immune function and higher disease incidence than group housing." *Id.* Additionally, "[s]kin lesions attributed to pressure, such as decubital ulcers, are more common in stalls." *Id.* Suffering from lameness, sows in gestation crates are then reluctant to stand, which in turn leads to reduced water consumption and infrequent urination, thereby predisposing sows to bacterial urinary infections and causing producers to utilize more antibiotics (including prophylactic use). Rita Albernaz-Gonçalves, et al., *Linking Animal Welfare and Antibiotic Use in Pig Farming—A Review*, 12 Animals 216 (2022); R. Albernaz-Gonçalves, et al., *Exploring Farmers' Reasons for Antibiotic Use and*

Misuse in Pig Farms in Brazil, 10 Antibiotics 331 (2021). Urinary tract infections also predispose sows to reproductive disorders, such as anoestrus and postpartum dysgalactia syndrome, which then leads to further antibiotic usage. *See* Mari Heinonen, et al., *Impact of lameness and Claw Lesions in Sows on Welfare, Health and Production*, 156 Livest. Sci. 64 (2013); N. Kemper, *Update on Postpartum Dysgalactia Syndrome in Sows*, 98 J. Anim. Sci. 117 (2020).

By the same token, piglets born to sows in gestation crates are more likely to receive antibiotics, as they have weakened immune systems and are more susceptible to infections, whereas piglets of sows reared in groups showed greater disease resistance. D. Couret, et al., *Maternal Stress During Late Gestation Has Moderate But Long-Lasting Effects on the Immune System of the Piglets*, 131 Vet. Immunol. Immunopathol. 17 (2009).

D. If Proposition 12 Raises Pork Prices in California, Any Resulting Decrease in Pork Consumption in California Would Significantly Benefit Californians' Health

An increase in the price of pork in California could theoretically reduce pork consumption in California, and thus would constitute a substantial benefit to California public health. Assuming, *arguendo*, that pork prices rose in California because of compliance with Proposition 12, the increase would not constitute a significant or substantial burden on interstate commerce under the dormant Commerce Clause, and thus the benefits would justify and outweigh the alleged de minimis impact. *See Exxon Corp.*, 437 U.S. at 128; *see also Brown & Williamson Tobacco Corp. v. Patak*, 320 F.3d 200, 217 (2d Cir. 2003) (finding that the local benefit of "a decrease in the demand of

cigarettes" from a statute that increased the price of cigarettes was "certainly not outweighed by the Statute's de minimis effect on interstate commerce.").

1. *Increased pork prices in California would likely reduce pork consumption in California*

According to Richard Sexton, the University of California, Davis, professor of agriculture and resource economics, Proposition 12 will result in 6% fewer fresh pork products consumed in California. Jennifer Shike, AgWeb *UC Davis Professor Says Impact of Proposition 12 Won't Be Catastrophic*, (Sept. 14, 2021), https://www.agweb.com/news/livestock/pork/uc-davis-professor-says-impact-proposition-12-wont-be-catastrophic.

One study found that even a minor price increase on meat products can decrease sales of those meat products. Emma E. Garnett, et al.*, Price of Change: Does a Small Alteration to the Price of Meat and Vegetarian Options Affect Their Sales?* J. Environ. Psychol., 75:101589 (2021), https://doi.org/10.1016/j.jenvp.2021.101589.

2. *Pork consumption, in particular, increases risk of serious health problems*

a. *Hepatitis E*

According to the Centers for Disease Control and Prevention, consumption of pork increases the risk for hepatitis E. *See* Iona Smith, et al., *Case–control Study of Risk Factors for Acquired Hepatitis E Virus Infections in Blood Donors, United Kingdom, 2018–2019*, 27 Emerging Infectious Diseases 1654 (2021). Researchers compared hepatitis E virus (HEV) RNA-positive blood samples with negative blood samples for risk factors for HEV infections. *Id.* Results revealed

that of those with positive results, 97.4% reported pork consumption. *Id.* Donors who do not eat meat had no positive results. *Id.* The study emphasizes that viral transmission can occur in both cooked and uncooked cured pork products, with no known time or temperature of cooking these products to make them safe from the virus. *Id.*

b. *Cirrhosis*

Consumption of pork is highly correlated with cirrhosis of the liver, higher even than alcohol. *See* AA Nanji and SW French, *Relationship Between Pork Consumption and Cirrhosis*, 325 Lancet 681 (1985). A subsequent study confirmed this association between pork consumption and cirrhosis. F.S. Bridges, *Relationship Between Dietary Beef, Fat, and Pork and Alcoholic Cirrhosis*, 6 Int. J. Environ. Res. Public Health 2417 (2009).

c. *Liver Cancer*

Researchers have found an association between pork consumption and the primary liver cancer, hepatocellular carcinoma. *See* AA Nanji and SW French, *Hepatocellular carcinoma, Relationship to Wine and Pork Consumption*, 56 Cancer 2711 (1985). Indeed, the study found that the correlation between pork consumption and liver cancer was as strong as the correlation between alcohol consumption and liver cancer. *Id.*

d. *Multiple Sclerosis*

Researchers have found a significant correlation between the prevalence of multiple sclerosis and pork consumption. Amin A. Nanji and Steve Narod, *Multiple Sclerosis, Latitude and Dietary Fat: Is Pork the Missing Link?,* 20 Medical Hypotheses 279 (1986).

Beef, on the contrary, is not associated with multiple sclerosis, according to the study. *Id.*

e. *Trichinosis*

The most common cause of *trichinosis* is the consumption of undercooked pork products. *Trichinosis (Food Poisoning),* Cleveland Clinic, https://my.clevelandclinic.org/health/diseases/7142-trichinosis-food-poisoning (last visited Aug. 11, 2022); *see also* Frits Franssen, et al., *Parasite to patient: A Quantitative Risk Model for Trichinella Spp. in Pork and Wild Boar Meat,* 241 Int. J. Food Microbiol. 262 (2017). *Trichinosis* occurs through digestion of such pork products, whereby *trichinella spiralis*, a species of worm, then produce larvae in the human body, frequently causing abdominal pain, diarrhea or constipation, fever, headaches, and eye swelling. *See Trichinosis (Food Poisoning), supra.* In severe cases, *trichinosis* may cause inflammation of the heart muscles, difficulty breathing, and death. *Id.*

f. *Campylobacter*

Campylobacter contamination represents a significant human health risk, given that *Campylobacter* is one of the leading causes of human bacterial gastroenteritis, and can also cause blood and brain infections, reactive arthritis, and Guillain-Barré syndrome. *See* Guk et al., *supra*, at 2. Worse yet, *Campylobacter* isolated from pigs and retail pork chops has become increasingly antibiotic resistant. *See, e.g.,* Ross C. Beier, et al., *Disinfectant and Antimicrobial Susceptibility Profiles of Campylobacter Coli Isolated in 1998 to 1999 and 2015 from Swine and Commercial Pork Chops*, 84 J. Food Sci. 1501, 1505 (2019) (finding that 83% of *Campylobacter* strains in commercial pork chops

were resistant to at least one antibiotic important to human medicine).

3. *Consumption of red meat increases the risk of serious health problems*

According to the Harvard School of Public Health, "'healthy [red] meat consumption' has become an oxymoron." *Cutting Red Meat for a Longer Life*, Harvard Health Publishing (June 1, 2012), *available at* https://www.health.harvard.edu/staying-healthy/cutting-red-meat-for-a-longer-life.

a. *Reduced Life Expectancy*

A long-term, large-scale study by a group of Harvard scientists concluded that red meat consumption is associated with premature death, cardiovascular disease, and cancer. An Pan, et al., *Red Meat Consumption and Mortality: Results from 2 Prospective Cohort Studies*, 172 Archives of Internal Medicine 555 (2012). Specifically, the study determined that each additional daily serving of red meat increased the risk of death by 13%. *Id.* This association held firm, even when the researchers compensated for the effects of an unhealthy lifestyle, including obesity, alcohol intake, tobacco use, and lack of exercise. *Id.*

Intake of both processed and unprocessed red meat is associated with all-cause and cause-specific mortality in nine different chronic diseases. Arash Etemadi, et al., *Mortality from Different Causes Associated with Meat, Heme Iron, Nitrates, and Nitrites in the NIH-AARP Diet And Health Study: Population Based Cohort Study*, 357 BMJ 1957 (2017). Researchers reviewed dietary data from 536,969 participants as part of the NIH-AARP Diet and Health Study, with results showing an association between increased

consumption of red meat and an increased chance of death from conditions such as diabetes, Alzheimer's disease, and kidney disease. *Id.*

b. *Heart Disease*

Studies have repeatedly found a correlation between red meat consumption and cardiovascular disease. *See, e.g.,* Zeneng Wang, et al. *Impact of Chronic Dietary Red Meat, White Meat, or Non-Meat Protein on Trimethylamine N-Oxide Metabolism and Renal Excretion in Healthy Men and Women*, 40 Eur. Heart J. 583 (2019); S. Rohrmann, et al., *Meat Consumption and Mortality - Results from the European Prospective Investigation into Cancer and Nutrition*, 11 BMC Med. 63 (2013).

After conducting a systemic review of 13 cohort studies involving over 1.4 million people during a 30-year period, researchers at the University of Oxford's Nuffield Department of Population Health found that each 50 g/day higher intake of unprocessed red meat increased the risk of coronary heart disease by 9%. Keren Papier, et al., *Meat Consumption and Risk of Ischemic Heart Disease: a Systematic Review and Meta-Analysis*, Critical Reviews in Food Science and Nutrition 1 (2021).

c. *Cancer*

According to a study published in the *International Journal of Cancer*, red meat consumption increases the risk of colon cancer in women. Diego Rada-Fernandez de Jauregui. et al., *Common Dietary Patterns and Risk of Cancers of the Colon and Rectum: Analysis from the United Kingdom Women's Cohort Study (UKWCS*), 143 Intl. J. Cancer 773 (2018). Additionally, researchers examining dietary data

encompassing 500,000 men and women found that two or more servings of red meat a week increases risk for colorectal cancer. K.E. Bradbury, et al., *The Association of Red and Processed Meat, and Dietary Fiber with Colorectal Cancer in UK Biobank,* 74 Proceedings of the Nutrition Society 5 (2015). Participants who ate red meat four or more times per week had a 42 % increased risk for colorectal cancer. *Id.*

The risk of kidney cancer is also increased by eating red meat. Carrie R. Daniel, et al., *Large prospective Investigation of Meat Intake, Related Mutagens, and Risk of Renal Cell Carcinoma*, 1 Am. J. Clin. Nutr. 55 (2012). Researchers tracked approximately one-half million men and women in the NIH-AARP Diet and Health Study, finding that those who ate around 4.5 ounces of red meat per day (about the size of an average hamburger), had a higher risk of kidney cancer. *Id.*

An analysis from Harvard's Nurses' Health Study II found that red meat consumption increases breast cancer risk. Eunyoung Cho, et al., *Red Meat Intake and Risk of Breast Cancer Among Premenopausal Women*, 166 Arch. Intern. Med. 2253 (2006). The analysis comprised 90,659 premenopausal women aged 26 to 46 who completed food surveys during a 12-year period. *Id.* Women who consumed 1 ½ or more servings of red meat per day had nearly double the risk of developing hormone receptor-positive breast cancer compared with those consuming three or fewer servings of red meat per week. *Id.*

d. *Diabetes*

According to a study published by the American Medical Association, people who increase their red meat intake gain weight and increase their risk for

diabetes. An Pan, et al., *Changes in Red Meat Consumption and Subsequent Risk of Type 2 Diabetes Mellitus,* 173 JAMA Intern. Med. 1328 (2013). Researchers found that an increase of more than half of a serving of red meat per day increased the risk for type 2 diabetes by 48 %. *Id.* Decreasing red meat intake resulted in weight loss and a reduced risk for diabetes. *Id.*

e. *Kidney Failure*

Researchers assessed data from 63,257 participants as part of the Singapore Chinese Health Study and tracked diet and kidney failure. Quan-Lan Jasmine Lew, et al., *Red Meat Intake and Risk of ESRD*, 28 J. Am. Soc. Nephrol. 304 (2017). Those who consumed the most protein from red meat increased their risk for end-stage kidney disease. *Id.* Results showed that replacing a single serving of red meat with another source of protein, such as soy products or legumes, cut the risk for disease by over 60 %. *Id.*

E. The Petitioners failed to plead sufficient facts that any burden on interstate commerce is *clearly* excessive in relation to the local benefits

While the Petitioners allege that "there is not currently a consensus in peer-reviewed published scientific literature" that Proposition 12 will benefit human health and safety, the alleged lack of such consensus is not sufficient to demonstrate that "the burden on interstate commerce is *clearly* excessive in relation to the putative local benefits." *Pike v. Bruce Church, Inc.,* 397 U.S. 137, 142 (1970) (emphasis added). This Court has emphasized that "if safety justifications are not illusory, the Court will not second-guess legislative judgment about their importance

in comparison with related burdens on interstate commerce." *Kassel v. Consol. Freightways Corp. of Delaware* 450 U.S. 662, 670 (1981). Indeed, far from proving a "consensus," California need only show that the claimed putative benefits of the law are not "groundless." *See CTS Corp. v. Dynamics Corp. of America*, 481 U.S. 69, 92 (1987); *see also Minnesota v. Clover Leaf Creamery Co.,* 449 U.S. 456, 469, 473 (1981) (accepting the State's proffered basis for the law at issue because the utility of the legislation was "'at least debatable'").

Here, as the California Department of Agriculture ("the Department") notes, "the scientific literature supporting the potential public health benefits related to egg-laying hens that are provided additional space . . . continues to increase." Cal. Dep't Food & Agric., 15-Day Notice of Modified Text and Documents Added to the Rulemaking File Relating to Animal Confinement 74 (Nov. 30, 2021), www.cdfa.ca.gov/ahfss/pdfs/regulations/ACP15dayCommentPeriodDocuments.pdf (emphasis added). Moreover, as discussed, *supra*, countless studies have found that by prohibiting intensive confinement of sows in particular, the risk of zoonotic disease in their piglets at slaughter is reduced, thereby reducing the risk to human health. Considering such scientific literature, the Department clarified that California could reasonably enact Proposition 12 as a "precautionary measure." *Id.*

The litany of scientific studies in support of Proposition 12's health and safety benefits provides a clear distinction between Proposition 12 and those cases where the Court found a law's health and safety benefits were "illusory." In *Kassel*, for example (substantially relied upon by the Petitioners and numerous

amici[2]), this Court held that the state had "failed to present *any persuasive evidence*" in support of the safety justification for a law that prohibited certain large trucks. 450 U.S. at 671 (emphasis added). Moreover, whereas the law in *Kassel* was "out of step with the laws of all other Midwestern and Western States," *id.,* here, all three states neighboring California have laws banning gestation crates for pigs and/or battery cages for laying hens. *See* Ariz. Rev. Stat. Ann. § 13-2910.07; Nev. AB 399 (June 4, 2021); Or. Rev. Stat. §§ 600.150, 632.835. Similarly, in *Southern Pac. Co. v. Arizona ex rel. Sullivan,* the Court found that a law limiting train lengths had "no reasonable relation to safety" because of the substantial statistical evidence proffered by the railroad company that the law increased the number of accidents and casualties, whereas the Petitioners have not shown any statistical evidence that Proposition 12 will actually increase risks to human health. 325 U.S. 761, 779 (1945). As this Court has made clear, California need not "'sit idly by and wait . . . until the scientific community agrees'" about the human health and safety risks of intensive farmed animal confinement within its borders "before it acts to avoid such consequences." *Maine v. Taylor,* 477 U.S. 131, 148 (1986).

In light of the scientific studies discussed *supra*, the health and safety benefits of Proposition 12 are at the very least "debatable," and as such, the Court cannot find that any burden on interstate commerce is *clearly* excessive in relation to the law's local benefits.[3]

---

[2] *See, e.g,* Brief for the United States as *Amicus Curiae*, p. 18-19; Brief for Protect the Harvest as *Amicus Curiae*, p. 17.

[3] Notably, the Cato Institute in its Amicus Curiae Brief misrepresents the test under the dormant Commerce Clause, arguing that "[e]ven if Prop 12 furthers a legitimate state

CONCLUSION

For the foregoing reasons, the judgment of the court of appeals should be affirmed.

Respectfully submitted,

MARK KENNEDY
PHYSICIANS COMMITTEE FOR RESPONSIBLE MEDICINE
5100 Wisconsin Ave., NW
Suite 400
Washington, DC 20016
(202) 686-2210
mkennedy@pcrm.org

COREY PAGE
Counsel of Record
GENEVA PAGE
MATTHEW HAMITY
EVANS & PAGE
2912 Diamond Street
#346
San Francisco, CA 94131
(415) 896-5072
cpage@evansandpage.com

Counsel for Amicus Curiae

August 15, 2022

---

interest, it could be accomplished *through less restrictive means*." Brief for Cato Institute as Amicus Curiae, p. 10 (emphasis added). In support of this claim, Cato Institute cites to cases that specifically reference the dormant Commerce Clause requirement that states employ "the least *discriminatory* alternative." *See Hughes v. Oklahoma*, 441 U.S. 322, 337-38 (1979) (emphasis added); *Granholm v. Heald*, 544 U.S. 460, 489 (2005). However, this case does not involve discrimination, and indeed, "[t]he Council does not argue that the complaint has plausibly pleaded that Proposition 12 discriminates against out-of-state interests, and so has foregone the [discriminatory argument]." Pet.App. 5a. Rather, "a less strict scrutiny is appropriate . . . [w]hen . . . a statute has only indirect effects on interstate commerce and regulates evenhandedly [such that] we have examined whether the State's interest is legitimate and whether the burden on interstate commerce clearly exceeds the local benefit." *Wyoming v. Oklahoma*, 502 U.S. 437, 455 (1992). Thus, under the *Pike* test, the legislature need not choose the least restrictive means of regulation. *Id*; *see also Park Pet Shop, Inc. v. City of Chicago*, 872 F.3d 495, 502 (7th Cir. 2017); *Colon Health Centers of America, LLC v. Hazel*, 733 F.3d 535, 545 (4th Cir. 2013).