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NAFTA's Trojan Horse & the Demise of the Mexican Hog Industry

Pamela A. Vesilind¹

INTRODUCTION

In late March 2009, a five-year-old boy in La Gloria, Mexico came down with the flu. This typically unremarkable event took on significance when, two weeks later, over 800 people in nearby Perote also became sick and the little boy was labeled “patient zero” of the 2009-10 swine flu pandemic.² Epidemiologists from around the world converged on Perote Valley, as 60% of Perote’s citizens eventually fell ill.³ Édgar Hernández’s mother sobbed to the *Washington Post* reporter that her son could not have caused this disaster.⁴ She and her neighbors blamed the hog factories.⁵

Perote, the capital of the state of Veracruz, is about 120 miles from Mexico City. Surrounded by mountains on all sides, Perote Valley is home to around 35,000 people and more than one million pigs at any given time.⁶ Residents have long complained about the hog factories. The odors from the massive manure cesspools baking in the sun, some less than two miles from the city of Perote, permeate their homes, clothes, and belongings. Dust clouds of dried manure travel for miles, whipped up by the hot winds. It is

1. Assistant Professor of Law, Vermont Law School. The author thanks Nancy Ehrenreich, Professor of Law & William M. Beane Memorial Research Chair at the University of Denver Sturm College of Law, and Beth Lyon, Professor of Law at Villanova University School of Law, for including her in the Global Politics of Food: Sustainability & Subordination conference.

2. CNN.com, *Earliest Case of Swine Flu Tucked Away in Mexico, Officials Say* (May 1, 2009), <http://edition.cnn.com/2009/HEALTH/04/28/swine.flu/index.html>; Joshua Partlow, *Little Boy at the Center of a Viral Storm*, WASH. POST (Apr. 29, 2009), <http://www.washingtonpost.com/wpdyn/content/article/2009/04/28/AR2009042804041.html>.

3. Laura Carlsen, *Mexico's Swine Flu and the Globalization of Disease*, HUFFINGTON POST (Apr. 29, 2009), http://www.huffingtonpost.com/laura-carlsen/mexicos-swine-flu-and-the_b_193239.html.

4. Partlow, *supra* note 2.

5. *Id.*; CNN.com, *supra* note 2. There is credible evidence that the virus developed in American hog farms in the 1990s. See Jon Cohen, *Exclusive Interview: CDC Head Virus Sleuth*, SCIENCE MAG. (Apr. 29, 2009), available at <http://news.sciencemag.org/scienceinsider/2009/04/exclusive-cdc-h.html>.

6. Alexandra G. Ponette-González & Matthew Fry, *Pig Pandemic: Industrial Hog Farming in Eastern Mexico*, 27 LAND USE POL'Y 1107, 1108 (Oct. 2010) [hereinafter Ponette-González].

difficult to breath. They are often sick.⁷

These are not traditional hog farms; these are the Granjas Carroll de Mexico (“GCM”) hog factories. They are the most productive hog facilities in Mexico, owned in part by the world’s largest hog producer and packing corporation, Smithfield Foods.⁸ Many of the traditional commercial farms and backyard “camposinos” have given up trying to compete with high-tech facilities like these.⁹ Although not a new problem, it took the swine flu (rebranded “H1N1” by the hog industry) to attract the world’s attention.¹⁰

In the last twenty years, Mexican animal agriculture—breeding, raising, and slaughtering pigs, cattle, and poultry (chickens and turkeys)—has undergone a radical transformation that has left the country with more meat but far fewer farmers. In many ways, this transformation echoed the industrialization of agriculture in the southern and mid-western United States in the late 1980s and the 1990s, with one critical distinction: in the U.S. domestic corporations led the agriculture transformation. In Mexico, the catalysts were primarily foreign-owned multinational corporations, generally second-generation corporations connected to the American agriculture “revolution.” These industrial farming corporations thrived in Mexico, and their success was simultaneously devastating to Mexican agriculture.

How did this happen? The answer lies in the trade liberalization policies of the North American Free Trade Agreement (NAFTA), signed by Canada, Mexico, and the United States in

7. Partlow, *supra* note 2; NAT. RESOURCES DEF. COUNCIL & THE CLEAN WATER NETWORK, CESSPOOLS OF SHAME: HOW FACTORY FARM LAGOONS AND SPRAYFIELDS THREATEN ENVIRONMENTAL AND PUBLIC HEALTH 1 (2001), available at <http://www.nrdc.org/water/pollution/cesspools/cesspools.pdf> [hereinafter NRDC] (“People living close to hog operations have reported headaches, runny noses, sore throats, excessive coughing, respiratory problems, nausea, diarrhea, dizziness, burning eyes, depression, and fatigue.”).

8. Ponette-González, *supra* note 6, at 1108. In this article, the words “hog,” “pig,” and “swine” will be used interchangeably. The word “sow” will only be used to refer to female pigs, usually in the context of breeding. “Pork” will refer only to products derived from pigs.

9. Batres Marques, *et al.*, Midwest Agribusiness Trade Research & Info. Ctr., THE CHANGING STRUCTURE OF PORK TRADE, PRODUCTION, AND PROCESSING IN MEXICO, at 11 (2006), <http://www.card.iastate.edu/publications/DBS/PDFFiles/06mbp10.pdf> [hereinafter BATRES-MARQUEZ].

10. Reuters, *U.S. Officials Want “Swine” Out of Flu Name*, (Apr. 29, 2009), <http://uk.reuters.com/article/2009/04/29/uk-flu-usa-name-sb-idUKTRE53R7GJ20090429>; Emily Bryson York, *Pork Industry Groups: Don’t Call it Swine Flu*, ADVERTISING AGE (Apr. 29, 2009), available at http://adage.com/article?article_id=136337.

1993.¹¹ Using the Mexican hog industry, this article illustrates how poorly-negotiated NAFTA provisions were manipulated to exploit Mexican consumers, farm owners, and laborers. Part I discusses NAFTA's tariff rate quotas, and how they failed to protect Mexican hog farmers. It explains how foreign owned corporations were able to apply a two-sided strategy to take over more than one-third of Mexican pork production while developing Mexico into a leading importer of U.S. pork products. Part II briefly reviews the primary arguments why industrial animal farms, colloquially called "CAFOs" (confined animal feeding operations) are ultimately unsustainable without considerable government support. The section then provides explanation as to how the CAFO model is even more unsustainable in emerging nations like Mexico. In conclusion, the article provides a short discussion for the reasons the U.S. pork lobby actively resists NAFTA reform.

PART I: NAFTA & THE MEXICAN HOG INDUSTRY

Prior to crafting the North American Free Trade Agreement, the United States, Canada, and Mexico had become members of the World Trade Organization (WTO) and signatories to the General Agreement on Tariffs and Trade (GATT), the primary WTO trade agreement.¹² GATT allows member nations to create "free trade areas," such as the one created by NAFTA, by tailoring trade guidelines in certain markets to further desired economic policy.¹³ NAFTA was promoted as a vehicle to "reduce distortions to trade" among the three neighbor countries, with "mutually advantageous" trade rules.¹⁴ It entered into force on January 1, 1994.

In many respects, NAFTA has failed to deliver "mutually advantageous" benefits.¹⁵ In the U.S., it is often criticized as the catalyst for an exodus of manufacturing jobs to Mexico—the fulfillment of former presidential candidate Ross Perot's prediction that NAFTA would create a "giant sucking sound" of companies moving south.¹⁶ In Mexico, NAFTA policies have had crippling

11. North American Free Trade Agreement, U.S.-Can.-Mex., Dec. 17, 1992, 32 I.L.M. 289 (1993) [hereinafter NAFTA].

12. General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. A-11 (1947), 55 U.N.T.S. 194 [hereinafter GATT].

13. *Id.* at art. XXIV.

14. NAFTA, *supra* note 11, at Preamble.

15. Elisabeth Malkin, *NAFTA's Promise, Unfulfilled*, N.Y. TIMES (Mar. 24, 2009), http://www.nytimes.com/2009/03/24/business/worldbusiness/24peso.html?_r=1.

16. Marla Dickerson, *NAFTA Has Had its Trade-Offs for the U.S.*, L.A. TIMES

effects on certain agricultural sectors. Within a decade, over 1.3 million Mexican agricultural jobs were lost; by 2008, another million jobs disappeared.¹⁷ Partially to blame was emigration to the U.S. by displaced Mexican agriculture laborers, which was at an all-time high until the 2008 recession.¹⁸ Of those who remained, many left their rural communities to seek alternative employment in cities that were ill-prepared to accommodate such rapid population growth.¹⁹ In 2009, the Carnegie Institute concluded that NAFTA has left Mexico's "most vulnerable citizens . . . facing a maelstrom of change beyond their capacity, or that of their government, to control."²⁰

The effect on the Mexican hog sector was manifest. Its supply and demand balance were in flux, much of its labor force was rendered unnecessary, and prices were depressed so low that traditional commercial farms began facing nearly insurmountable odds.²¹ Although Mexico had hoped that liberalized trade with the U.S. and Canada would modernize its agriculture processes²² and increase production,²³ NAFTA policies hastened the adoption of

(Mar. 08, 2008), <http://articles.latimes.com/2008/mar/03/business/fi-nafta3> (noting the "growing wariness" among U.S. voters that NAFTA has had inequitable results).

NAFTA is a model that, in our view, has utterly failed to deliver the promised benefits to ordinary citizens in any of the three North American countries. NAFTA's main outcome has been to strengthen the clout and bargaining power of multinational corporations, to limit the scope of governments to regulate in the public interest and to force workers into more direct competition with each other, reinforcing the downward pressure on their living standards while assuring them fewer rights and protections.

Greg Woodhead, AFL-CIO Policy Statement: *NAFTA's Seven Year Itch: Promised Benefits Not Delivered to Workers*, at 11 (2002), available at <http://www.aflcio.org/mediacenter/resources/upload/naftabenefitsnotdelivered.pdf>.

17. John J. Audley, *et al.*, Carnegie Endowment for International Peace, *NAFTA's Promise & Reality: Lessons from Mexico for the Hemisphere*, 6 (2003), available at <http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=1390> [hereinafter Carnegie Report] (reporting a job loss from 8.1 million to 6.8 million); Global Development & Environment Institute, Tufts Univ. Policy Brief No. 10-01, *Hogging the Gains from Trade: The Real Winners from U.S. Trade & Agricultural Policies*, 3 (Jan. 2010), available at <http://www.ase.tufts.edu/gdae/Pubs/rp/PB10-01HoggingGainsJan10.pdf> [hereinafter Tufts Policy Brief].

18. Carnegie Report, *supra* note 17, at 7.

19. *Id.*

20. *Id.*

21. Tufts Policy Brief, *supra* note 17, at 3.

22. M. ANGELLES VILLARREAL, CONG. RES. SERV., RL34733, *NAFTA AND THE MEXICAN ECONOMY* 12 (June, 2010), available at <http://www.fas.org/sgp/crs/row/RL34733.pdf>.

23. Sherman Robinson & Karen Thierfelder, *The Effects of NAFTA in a Changing Environment*, Paper to the Tri-National Research Symposium, at 3 (Nov. 1996),

industrialized practices at a pace too rapid to contain.²⁴ To appreciate the impact of this accelerated industrialization, it helps to consider how the CAFO model of hog production differs from the pig farms these CAFOs replaced.

A. *CAFO Hog Production: Commoditization Replaces Husbandry*²⁵

1. Mass Confinement

The hallmark of CAFO production is mass confinement. Rather than keeping animals in fields or feedlots, CAFO facilities cage or pen animals individually or by the hundreds, inside enormous warehouses clustered around exposed manure collection tanks. The Smithfield GCM operation is typical: in 2008, GCM had approximately 56,000 breeding sows and 950,000 hogs in production for slaughter. The entire complex includes 16 facilities spanning across the Perote Valley. Each facility has multiple warehouse “units” dedicated to every step in the “farrow-to-finishing” (birth-to-fattening) cycle, with each unit made up of as many as 18 hog warehouses.²⁶ The warehouses are windowless, poorly-ventilated, often sweltering, and the floor is typically slatted concrete designed to allow manure and urine to eventually drain away.²⁷ Because the commoditization formula anticipates that a certain percentage of animals will fail to survive the warehouse conditions, sick and injured animals are typically left untreated, left to die.²⁸

Breeding sows spend most of their lives immobile. After

available at <http://agrinet.tamu.edu/trade/papers/burfishr.pdf> (detailing several Mexican government programs designed to increase productivity in agricultural sectors).

24. Ponette-González, *supra* note 6, at 1108.

25. Bernard E. Rollin, *Farm Factories: The End of Animal Husbandry*, in *THE CAFO READER*, at 8–10 (Daniel Imhoff ed., 2010).

26. Ponette-González, *supra* note 6, at 1108.

27. Jeff Tietz, *Boss Hog*, in *THE CAFO READER*, *supra* note 25, at 110; The Humane Society of the United States, *An HSUS Report: The Welfare of Animals in the Pig Industry*, at 2–4 (May, 2010), available at http://www.humanesociety.org/assets/pdfs/farm/welfare_pig_industry.pdf [hereinafter *HSUS REPORT*] (including an extensive bibliography of research on the welfare conditions of CAFO hogs); Pew Commission on Industrial Farm Animal Production, *Putting Meat on the Table: Industrial Farm Animal Production in America*, at 33, 83, 85–87 (2008), available at <http://www.ncifap.org/> [hereinafter *PEW REPORT*] (identifying parallels between animal welfare and public health risks).

28. Rollin, *supra* note 25 (suggesting that traditional notions of animal husbandry are replaced with a commoditization paradigm that calculates an “acceptable” percentage of loss due to animal death from illness or injury).

being artificially inseminated, they are confined in “gestation crates.” Once the piglets are born, they are moved to equally confining farrowing cages, where they are unable to nuzzle suckling piglets or shift their bodies to avoid pain.²⁹ Male pigs do not fare much better, packed together in small pens, stressed to the point of attacking each other or themselves. It is common practice to “dock” (remove) the hogs’ tails, without anesthesia, to prevent other pigs from gnawing at them.³⁰ Moreover the enhanced feeding and genetic manipulation practices discussed below often result in body masses too large for their skeletons to support.³¹

2. Specialization & Vertical Integration

Unlike traditional farms, industrial facilities “specialize” in certain segments of the hog production process. For example, a CAFO breeding facility would engage in only the insemination and gestation processes. After its piglets have been born and weaned, they are sold to a farrowing facility for feeding, and so on.³² This model allows each facility to focus exclusively on improving technologies and streamlining costs associated with its specialty.³³

Complementing the specialization strategy is another essential trademark of industrial animal production: vertical integration. As first developed by Tyson Foods for the poultry industry, this strategy involves either acquiring or establishing exclusive contracts with a business provider for every part of the production, processing, and sales chain (growing feed, breeding, birthing, farrowing, slaughtering, packaging, transporting, marketing, and selling).³⁴ Smithfield announced its first fully-integrated opera-

29. Jeff Tietz, *Boss Hog*, in *THE CAFO READER*, *supra* note 25, at 110.

30. HSUS REPORT, *supra* note 27, at 3.

31. Donald E. Bixby, *Old McDonald Had Diversity*, in *THE CAFO READER*, *supra* note 25, at 171, 173.

32. Marcy Lowe & Gary Gereffi, Center on Globalization Governance & Competitiveness (CGGC), Duke Univ., *A Value Chain Analysis of the U.S. Pork Industry*, at 9–10 (Oct. 3, 2008), http://www.cggc.duke.edu/environment/valuechainanalysis/CGGC_Pork%20IndustryReport_10-3-08.pdf [hereinafter CGGC].

33. USDA, ECON. RES. SERV., *THE CHANGING ECONOMICS OF U.S. HOG PRODUCTION REPORT 13* (Dec. 2007) available at <http://www.ers.usda.gov/Publications/ERR52/ERR52.pdf> [hereinafter USDA, ECON. RES. SERV.].

34. Batres-Marquez, *supra* note 9, at 11–13; Ponette-González, *supra* note 6, at 1107–08. As an example, Smithfield Foods has acquired 20 companies since 1981. Ctr. For Media & Democracy, Sourcewatch, Smithfield Foods, at 2, available at http://www.sourcewatch.org/index.php?title=Smithfield_Foods (reporting that the 2003 acquisition of Farmland Foods elevated Smithfield’s market share from 20% to 27%).

tion in Mexico in 1999,³⁵ and integration continues to be the trend.³⁶ Every member of an integrated operation benefits from the competitive advantage of streamlined costs.³⁷ The effects of this business strategy were evident by 2003, when only 15% of the domestically-produced pork for sale in Mexico came from smaller commercial farms, while nearly 60% came from industrial facilities with an average herd size of 300-1000 pigs.³⁸

This expansion strategy was first used to great effect by Murphy Family Farms, Carroll's Foods, and Prestage Farms, in Iowa, North Carolina, Missouri, Minnesota, and Illinois. Such technologically superior and vertically integrated systems ushered in a new era of consolidated hog farming in the 1990s.³⁹ Whereas there were almost 3 million hog farms in the 1950s, today there are only 67,000, with over 50% of pork producers in the U.S. processing 5,000 or more pigs per year.⁴⁰ Between 1992 and 2004, the number of hogs processed in the U.S. remained steady, but the number of hog farms dropped from 240,000 to only 70,000.⁴¹

3. Maximized Profits & Minimized Costs

CAFO operations are meticulously efficient. For example, birth-to-slaughter production cycles are shorter than they are in the traditional model, while the hogs are up to 20% heavier. This is accomplished through the use of hormones, antibiotics, and other pharmaceuticals to speed and enhance growth.⁴² Breeding animals that are genetically manipulated or selected for traits that deliver faster production also allows CAFO sows to produce more piglets per litter (but fewer litters due to shorter life expect-

35. Smithfield Press Release, *Smithfield Foods Announces Completion of Joint Venture in Mexico*, (Sept. 20, 1999), <http://investors.smithfieldfoods.com/releasedetail.cfm?releaseid=297149> (reporting Smithfield's \$22 million investment for half ownership of Agroindustrial Del Noroestehich, which had operations in Hermosillo, Mexico City, and Guadalajara).

36. U.S. Meat Export Fed'n (USMEF), *Mexico Pork*, at 1 (Oct. 2008), <http://www.usmef.info/TradeLibrary/files/MEXICO%20PORK%20SMP%20FY09.pdf> [hereinafter USMEF].

37. Ponette-González, *supra* note 6, at 1107.

38. *Id.* (reporting that the remaining 28% of domestic pork consumed was produced by backyard farms (10-50 pigs) which sold the fresh meat locally).

39. DAVID KIRBY, *ANIMAL FACTORY*, xvii, 24-25 (2011).

40. National Pork Producers Council, *Pork Statistics*, <http://www.nppc.org/aboutus/porkstatistics.htm>.

41. CGGC, *supra* note 32, at 10.

42. HSUS REPORT, *supra* note 27, at 5-6.

tancy).⁴³ CAFOs thus enjoy lower feeding costs because they need less feed for each production cycle and because they receive preferred pricing for high-volume purchases.⁴⁴

CAFOs also spend less on labor. Their average salaries are lower, even for the more intensive or dangerous slaughtering and packing positions.⁴⁵ The plentiful and desperate Mexican agrarian workforce, estimated at 2.3 million, has little choice but to accept these low wages.⁴⁶ Moreover, industrial operations hire fewer laborers to run the breeding and feeding facilities.⁴⁷ Prior to slaughter, pigs raised in industrial sites have little interaction with humans. They do not need to be herded or moved from pasture to barn. Feeding and waste management are mechanized or built into the infrastructure. Labor needs are primarily in the slaughter and packing stage of production.

B. How NAFTA Assisted the Hog Industry's Demise

To explain NAFTA's role in transforming the Mexican hog industry, the next section describes how foreign interests deflected measures taken to protect Mexico's live hog and pork product industries. The following section describes the NAFTA "Trojan horse" that allowed foreign corporations to also capture the domestic Mexican markets. Together, these two trade and expansion strategies put millions of commercial and subsistence farmers out of business.

1. NAFTA's Feeble Defenses: Import Tariffs

The NAFTA-era takeover of Mexico's hog industry by foreign corporations began with the treaty's anemic import tariff protections. Prior to 1985, Mexico protected its agricultural interests from lower-priced imports through trade quotas. Pursuant to its obligations under GATT, the government erected tariffs in place of

43. BATRES-MARQUEZ, *supra* note 9, at 12; USDA, ECON. RES. SERV., *supra* note 33, at 7.

44. CGGC, *supra* note 32, at 15-16.

45. BATRES-MARQUEZ, *supra* note 9, at 5, 10. Seaboard Foods, for example, transports bone-in hams from its Guymon, OK plant to the Reynosa Ham Deboning Plant in Mexico. Seaboard Foods, HISTORY, <http://www.seaboardfoods.com/about-history/Index.htm>.

46. Tufts Policy Brief, *supra* note 17, at 3-4. In large part, this exodus was prompted by the severe drop in Mexican corn and soybean crop prices, caused by increased imports of U.S.-grown crops. American slaughter and packing plants hire many of these displaced laborers. *Id.* (estimating that a quarter of U.S. animal processing plants are operated by undocumented workers).

47. BATRES-MARQUEZ, *supra* note 9, at 14, tbl.2.

the quotas.⁴⁸ Most of these tariffs were scheduled to expire on the day NAFTA came into force. However, all three countries negotiated to maintain tariffs for certain products allowing them to be reduced incrementally over time.⁴⁹ The import tariff reduction schedule for pork products and live hogs provided for reductions in ten equal increments, over nine years, with a final elimination of duties on January 1, 2003.⁵⁰ These customs barriers were supposed to protect the Mexican pork industry from being undercut by less-expensive pork imports from the U.S. and Canada.⁵¹

The protective tariffs proved inadequate, at least in Mexico. Live hog imports from the U.S. increased an incredible 10,000-fold between 1997 and 1998 alone.⁵² Anti-dumping tariffs initiated by Mexico temporarily slowed the influx of live hogs, but by 2003, the import-export balance again decidedly favored U.S. producers. Imports of U.S. pork products also skyrocketed—up almost 260% by the end of the NAFTA's first decade; during the same period, domestic production of pork products rose by only approximately 30%.⁵³ By the late 2000s, the overall increase in imports from the U.S. was 700%⁵⁴ and today, Mexico is the second largest importer of American pork products.⁵⁵

2. NAFTA's Trojan Horse: Cheap Animal Feed

The profusion of hog and pork imports into Mexico was problematic, but it was not the gravest danger to the Mexican hog industry. The true threat to the domestic industry came from multinational corporations investing heavily in business ventures with Mexico's largest hog producers, or purchasing them outright. Their efforts were facilitated by Mexico's newly relaxed land ownership regulations⁵⁶ and minimized restrictions on foreign investments.⁵⁷

48. GARY CLYDE HUFBAUER, *et al.*, NAFTA REVISITED: ACHIEVEMENTS & CHALLENGES 295 (2005), available at <http://gesd.free.fr/nafta05.pdf>; Sherman Robinson & Karen Thierfelder, *The Effects of NAFTA in a Changing Environment*, at 1 (Nov. 1996), <http://agrinet.tamu.edu/trade/papers/burfishr.pdf>.

49. HUFBAUER, *supra* note 48, at 283.

50. North American Free Trade Agreement, U.S.-Can.-Mex., Annex 703.3(B), Dec. 17, 1992, 32 I.L.M. 289, 377, available at <http://www.sice.oas.org/trade/nafta/naftatce.asp>.

51. HUFBAUER, *supra* note 48, at 284–85 (including a schedule for NAFTA tariffs).

52. BATRES-MARQUEZ, *supra* note 9, at 10, fig. 9.

53. Carnegie Report, *supra* note 17, at 70, tbl.1.

54. Tufts Policy Brief, *supra* note 17, at 3.

55. USMEF, *supra* note 36, at 1.

56. HUFBAUER, *supra* note 48, at 295.

57. Tufts Policy Brief, *supra* note 17, at 3. Mexico lifted its prohibition on 100%

Corporations like Smithfield Foods and ConAgra Foods⁵⁸ could now compete with Mexican commercial hog farms.⁵⁹ They were able to undercut this competition in large part by exploiting NAFTA's open trade initiatives to reduce their biggest operation cost, animal feed. This feed, typically corn and soybeans, was considerably less expensive in the U.S., and NAFTA essentially created "implicit subsidies" for U.S.-owned corporations importing cheap and tariff-free animal feed into Mexico.⁶⁰ Meanwhile, other Mexican farms paid higher prices for domestically-grown soybeans and corn.⁶¹ Although NAFTA's tariff provisions were meant to protect against just this type of trade imbalance, the Mexican government scantily resisted the imbalance during the first years of the treaty, when imports of U.S. feed corn and soybeans jumped by 500% and 150%, respectively.⁶²

In addition, the 1996 U.S. Farm Bill, which deregulated the agricultural commodities markets, exacerbated the trade imbalance by benefitting these large-volume purchasers of animal feed crops.⁶³ Deregulation allowed supplies to far exceed demand, depressing the purchase prices of U.S. corn and soybeans at 23% and 15% *below* the cost of production.⁶⁴ This price depression lasted for almost a decade, during which the same commodities were almost twice as expensive in Mexico, even for high-volume industrial purchasers.⁶⁵ U.S. and Mexican government subsidy programs for animal feed commodities⁶⁶ were critical to ensuring

foreign-ownership of domestic business operations and discontinued its requirement that foreign-owned businesses to conduct operations in consideration of local economies. *Id.*

58. Monte W. Fuhrman, DVM, *Hog Heaven: Is it on the Yucatan Peninsula of Mexico?*, 4 Swine HEALTH & PROD. 41, 41 (1996), available at <http://www.aasv.org/shap/issues/v4n1/v4n1p41.pdf> (describing the ConAgra USA venture with a Mexican producer to create a vertically-integrated facility for breeding and producing a target of 30,000 hogs at a time).

59. Ginger Thompson, *NAFTA to Open Floodgates, Engulfing Rural Mexico*, N.Y. TIMES, Dec. 19, 2002, <http://www.nytimes.com/2002/12/19/international/americas/19NAFT.html>.

60. Tufts Policy Brief, *supra* note 17, at 2.

61. *Id.* at 1.

62. *Id.* at 2-3.

63. *Id.* at 2.

64. *Id.*

65. BATRES-MARQUEZ, *supra* note 9, at 14.

66. The Mexican government established several programs in anticipation of adopting NAFTA. The Program of Direct Support for the Countryside (Programa de Apoyos Directos para el Campo, or PROCAMPO) was announced in 1993 as a "direct income transfer program" designed to replace Mexico's price support program during the first fifteen years of NAFTA implementation. The 1994 Mexican peso crisis contributed to a decline in PROCAMPO support for farmers (down \$1.4 billion in 1994

the viability of the industrial animal agriculture business model, which required a favoring of large-volume purchasers over traditional farms or smaller subsistence farmers.⁶⁷ Indeed, once benefited the companies would attempt to further leverage their advantage. Evidencing this, the largest U.S. hog production and pork processing corporations, Smithfield and Tyson, are also the top-five feed production corporations, further augmenting their competitive advantage over Mexican competitors.⁶⁸

Thus, while inexpensive live hog and pork product imports from the U.S. were already a significant threat to the Mexican industry, the fatal blow arguably came from multinational corporations based in Mexico, which used NAFTA's open trade avenues to import the commodity most critical to beating their competition, low cost animal feed.

3. Rising Consumption Rates & Dropping Prices

Once they had minimized feed and labor costs, and created vertically integrated business agreements, transnational corporations were able to infuse the Mexican market with pork products priced so low that farms not operating on an industrial scale were unable to compete. Pork prices dropped, in real terms, 56% between 1997 and 2005.⁶⁹ The consequence of these lower prices was a rise in consumption of pork products—up 20% between 1995 and 2002.⁷⁰ Prices continued to drop, consumption continued to rise, and domestic farms continued to close, as NAFTA tariffs on pork and live hog imports became incrementally ineffective each year. It was predicted that the end of the tariff program would lead to a further one-third reduction of Mexico's remaining 18,000 hog farms.⁷¹

This prediction proved accurate. In the year following the January 2003 expiration of hog and pork tariff provisions, imports of U.S. pork products increased a dramatic 67%, while exports from Mexico to the U.S. rose by only a fraction of that percent-

to \$1 billion in 1998). The Alliance for the Countryside program (Alianza para el Campo) was developed two years later to help finance modernization projects. HUFBAUER, *supra* note 48, at 295–96.

67. HUFBAUER, *supra* note 48, at 295 n. 26; Hugh Dellios, *10 Years Later: NAFTA Harvests a Stunted Crop*, CHI. TRIB. (Dec. 14, 2003), at A1, available at http://articles.chicagotribune.com/2003-12-14/news/0312140458_1_nafta-rural-mexicans-president-vicente-fox.

68. CGGC, *supra* note 32, at 30–32, tbls. 9–11.

69. Tufts Policy Brief, *supra* note 17, at 3.

70. BATRES-MARQUEZ, *supra* note 9, at 2.

71. HUFBAUER, *supra* note 48, at 289 n.10.

age.⁷² Between 2007 and 2008, U.S. pork imports rose another 40%.⁷³ Today, half of the pork consumed in Mexico comes from the U.S.,⁷⁴ and more than one-third of the domestic Mexican pork industry is owned and operated by transnational industrial operations. It is estimated that Smithfield owns half of that share.⁷⁵

The expanding gap between the consumer consumption rate and the domestic production rate, at 30% by the early 2000s, suggests continued and growing reliance on U.S. imports.⁷⁶ Smithfield and its competitors assert that the increased consumption of imported pork proves that Mexican consumers demand high-yield, mechanized farming practices, and that they find pork products from backyard farm pigs inferior.⁷⁷ Still, the industrialized model has substantial disadvantages, many of which are more pronounced in “developing” nations like Mexico.

PART II: UNSUSTAINABLE PRACTICES IN THE RACE TO THE BOTTOM

Modern production technologies discussed here yield inexpensive food. Americans today spend less of their income on food than they did fifty years ago.⁷⁸ However, the CAFO production model inherently gives rise to costly environmental and public health effects, and it relies on a governmental subsidy support.⁷⁹ In the U.S., increasingly strict environmental standards and growing media scrutiny over labor and animal welfare conditions have impeded further domestic expansion. As early as the mid-1990s, leaders like Smithfield, Tyson, Iowa Beef Processors (IBP), and Cargill began developing expansion plans in Latin America, East-

72. BATRES-MARQUEZ, *supra* note 9, at 3.

73. Western Organization of Resource Councils, *et al.*, Press Release, Livestock Producers from Mexico, Canada and United States Seek New Trade Policy & Market Reforms (Feb. 13, 2009), available at <http://www.tradeobservatory.org/headlines.cfm?refid=105233>.

74. *Id.*

75. Tufts Policy Brief, *supra* note 17, at 3.

76. BATRES-MARQUEZ, *supra* note 9, at 2.

77. BATRES-MARQUEZ, *supra* note 9, at 10, 13.

78. Bryan Walsh, *Getting Real About the High Price of Cheap Food*, TIME MAG., Aug. 21, 2009, available at <http://www.time.com/time/health/article/0,8599,1917458,00.html> (citing USDA statistics that “Americans spend less than 10% of their incomes on food, down from 18% in 1966”).

79. See, e.g., Daniel Imhoff, *supra* note 25, at 63–65; DOUG GURIAN-SHERMAN, UNION OF CONCERNED SCIENTISTS, CAFOs UNCOVERED: THE UNTOLD COSTS OF CONFINED ANIMAL FEEDING OPERATIONS 4 (2008), http://www.ucsusa.org/assets/documents/food_and_agriculture/cafos-uncovered.pdf.

ern Europe, China, and India.⁸⁰ A brief review of the CAFO model's primary external effects illustrates why these locales were preferable.

A. *General Sustainability Issues*

1. Animal Waste Management

A natural consequence of the mass confinement of animals is an unmanageable accumulation of animal waste. Typically, this waste is collected and stored on-site, in uncovered, outdoor "lagoons" spanning at least several acres.⁸¹ The waste matter is plentiful and toxic; it takes only 2,500 pigs to generate about 48 million gallons of liquid waste, sludge, and slurry a year,⁸² and the waste is 10 to 100 times more pathogenic than human waste.⁸³ Whereas U.S. federal and state agencies heavily regulate the management of human waste products, they have been slow to address agricultural waste.⁸⁴

The inability to adequately contain or dispose of these by-products can have dire results. Groundwater and surface waters become contaminated with harmful pathogens like escherichia coli (*E. coli*), giardia, and salmonella,⁸⁵ and toxic materials such as ammonia, hydrogen sulfide, cyanide, phosphates, nitrates, and

80. Doreen Carvajal & Stephen Castle, *A U.S. Hog Giant Transforms Eastern Europe*, N.Y. TIMES, May 6, 2009, at 1B, available at <http://www.nytimes.com/2009/05/06/business/global/06smithfield.html>; Dirk Johnson, *Pork Producer Settles Suit as Pollution Rules Tighten*, N.Y. TIMES, Aug. 16, 1999, <http://www.nytimes.com/1999/08/16/us/pork-producer-settles-suit-as-pollution-rules-tighten.html>.

81. PUBLIC CITIZEN, SMITHFIELD FOODS: A CORPORATE PROFILE 5 (2004), available at <http://www.citizen.org/documents/Smithfield.pdf> [hereinafter PUBLIC CITIZEN].

82. *Id.* at 5; Jeff Tietz, *Boss Hog*, in THE CAFO READER, *supra* note 25, at 109 (noting that hogs create three times more fecal waste than humans).

83. *Id.* at 5.

84. The scope of the Environmental Protection Agency's authority to regulate CAFOs under the Clean Water Act is unresolved. *See, e.g., Nat'l Pork Producers Council v. EPA*, 635 F.3d 738, 750–51 (5th Cir. 2011) (ruling that the EPA exceeded its statutory authority in requiring CAFOs to apply for a National Pollution Discharge Elimination System (NPDES) permit under the "potential to discharge" theory). In January, 2011, the EPA issued the results of a two-year study on air emissions from CAFO operations. Press Release, EPA, Emissions Data From Animal Feeding Operations Study Now Available, (Jan. 13, 2011), <http://yosemite.epa.gov/opa/admpress.nsf-d0cf6618525a9efb85257359003fb69d/dc13b657ff6203ce85257817005ed001!OpenDocument>.

85. PEW REPORT, *supra* note 27, at 13, 15; *see generally*, EPA, ENVIRONMENTAL ASSESSMENT OF PROPOSED REVISIONS TO THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM REGULATION AND THE EFFLUENT GUIDELINES FOR CONCENTRATED ANIMAL FEEDING OPERATIONS 3-1 (2001), available at http://water.epa.gov/scitech/wastetech/guide/cafo/upload/2001_02_13_guide_cafo_CAF0_Benefits.pdf [hereinafter EPA NPDES].

other heavy metals.⁸⁶ Algae blooms and fish kills often result when manure leaks into public drinking, swimming, or fishing water bodies.⁸⁷ A common practice of CAFO facilities is to attempt to dispose of manure by spraying it, as fertilizer, on local fruit and vegetable crops (“sprayfields”). This practice extends the risk of pathogenic contamination to consumers of these crops,⁸⁸ and when the fields become oversaturated, the runoff further broadens the risk of contagion.⁸⁹

2. Antibiotic Overuse & Genetic Uniformity

CAFO hog waste also contains traces of the hormones, insecticides, antibiotics, and other drugs used to offset the inevitable consequence that arise when raising animals in confined quarters with higher risk of disease, infection, and infestation.⁹⁰ Poor ventilation and waste drainage systems promote the growth of bacteria and viruses, which move freely from one animal to the next.⁹¹ To make matters worse, these animals already have compromised immune systems, due to the stress of confinement and inability to engage in normal behavior, and to the breeding practices described below.⁹²

Antibiotics are also widely used to speed growth.⁹³ These prophylactic dosing practices in the U.S. have been scrutinized more closely since the FDA reported that in 2009, 28.8 million pounds of antimicrobial drugs were sold and distributed exclusively for farm

86. PEW REPORT, *supra* note 27, at 13, 15.

87. Ponette-González, *supra* note 6, at 1109.

88. EPA NPDES, *supra* note 85, at 2-3; Wenonah Hauter, *Nuclear Meat: Using Radiation and Chemicals to Make Food “Safe”* in THE CAFO READER, *supra* note 25, at 294.

89. Daniel Imhoff, *Introduction*, in THE CAFO READER, *supra* note 25, at xv. The hog/owner-facility/contractor model for farm facility ownership allows companies like Smithfield to be unaccountable for damage caused by waste runoff, because the contractors who own the land and facility sign an agreement with the hog owner to this effect. The contractor thus “owns the waste product to be sold as fertilizer, . . . permitting the [hog owners] to point the finger at the contractors if any pollution results from lagoon leakage or overspraying.” PUBLIC CITIZEN, *supra* note 81, at 5.

90. Jeff Tietz, *Boss Hog*, in THE CAFO READER, *supra* note 25, at 111; Gardiner Harris, *Antibiotics in Animals Needs Limits*, *F.D.A. Says*, N.Y. TIMES, (June 28, 2010), at A15, available at <http://www.nytimes.com/2010/06/29/health/policy/29fda.html>; NRDC, *supra* note 7, at 21.

91. *E Coli*, present in cattle feces, is transmitted from one cattle to another when they attempt to groom one another. See P. McGee, *et al.*, *Horizontal Transmission of Escherichia coli O157:H7 during Cattle Housing*, 67 J. FOOD PROTECTION 2651, 2655 (2004).

92. PEW REPORT, *supra* note 27, at 13.

93. *Id.* at 15.

animal use;⁹⁴ this is nearly 80% of all such drugs sold in the U.S. that year.⁹⁵ Antibiotic overuse is considered a factor in the emergence of antibiotic-resistant bacteria such as Methicillin-resistant Staphylococcus Aureus (MRSA).⁹⁶ The industry dismisses the FDA's concerns as lacking scientific credibility.⁹⁷

Modern breeding practices, designed to produce consistency and predictability in pork products, also weaken the animals' immune systems. Forced genetic uniformity and over-selection of certain high-yield traits eliminate the natural development of resistances to pathogens and viruses.⁹⁸ Thus, according to some epidemiologists, a compelling connection exists between CAFO conditions and the rapid rise of pandemics such as avian flu and the swine flu that arose in Perote, Veracruz in 2010.⁹⁹

3. Inadequate Regulation of Animal Feed

Finally, animal feed is mostly unregulated in both the U.S. and Mexico. Despite the already low and often subsidized prices enjoyed by industrial purchasers of feed corn and soybeans, feed is commonly supplemented with animal carcasses, a process called "rendering." Although cattle may no longer be rendered for cattle feed, due to its association with Bovine Spongiform Encephalopathy (BSE or "mad cow disease"),¹⁰⁰ rendered cattle may be used in hog feed, and rendered hogs in cattle feed. It is also not uncommon for CAFO animal feed to include rendered carcasses of shelter animals (dogs and cats), and inorganic or indigestible materials such as plastic and feathers.¹⁰¹

94. FDA, CTR. FOR VETERINARY MEDICINE, SUMMARY REPORT ON ANTIMICROBIALS SOLD OR DISTRIBUTED FOR USE IN FOOD-PRODUCING ANIMALS (2009), <http://www.fda.gov/downloads/ForIndustry/UserFees/AnimalDrugUserFeeActADUFA/UCM231851.pdf>.

95. Ralph Loglisci, *New FDA Numbers Reveal Food Animals Consume Lion's Share of Antibiotics*, CTR. FOR A LIVABLE FUTURE, Dec. 23, 2010, <http://www.livablefutureblog.com/2010/12/new-fda-numbers-reveal-food-animals-consume-lion%E2%80%99s-share-of-antibiotics/>.

96. PEW REPORT, *supra* note 27, at 21.

97. *See, e.g.*, National Pork Producers Council, Press Release, *Where's Science Behind FDA Antibiotics "Guidance"?*, June 28, 2010, <http://www.nppc.org/News/PressRelease.aspx?DocumentID=25859>.

98. Bixby, *supra* note 31, at 173 (recalling the "old adage warn[ing] against putting all your eggs in one basket").

99. Nicholas D. Kristof, *The Spread of Superbugs*, N.Y. TIMES, Mar. 7, 2010, <http://www.nytimes.com/2010/03/07/opinion/07kristof.html>; *supra* text accompanying note 7.

100. Michael Pollan, *Power Steer*, in THE CAFO READER, *supra* note 25, at 98.

101. *Id.* at 98–99; *see also* HSUS REPORT, *supra* note 27, at 5–6 (discussing ulcers in hogs).

B. Sustainability Issues Specific to Mexico

Mexico's plentiful workforce and relaxed environmental and public health regulations, coupled with NAFTA pro-trade policies, offered Smithfield the ideal location to launch the corporation's global growth strategy.¹⁰² However, the same conditions that accommodated the adoption of industrial agriculture practices created additional public health and environmental problems specific to Mexico's environment, geography, and culture.

1. Obesity & Access to Clean Drinking Water

As discussed, when the cost of pork products fell, consumption rose precipitously (as was the case with similar foods high in protein and fat). This contributed to a dramatic rise in obesity rates and a health crisis with which Mexico's healthcare system is unequipped to manage. To illustrate, in the late 1980s, less than 10% of Mexican adults were considered overweight. By 2008, close to 71% of women and 60% of men were overweight,¹⁰³ and nearly a quarter of the adult population was considered obese. Diabetes has since become the leading cause of death¹⁰⁴ and Mexico has the dubious honor of joining the "developed" countries that top the list of "fattest nations."¹⁰⁵

Industrial agriculture has also contributed to the obesity problem by threatening the already inadequate supply of drinking water. As an example, the water table of the Perote-Zalayeta aquifer in Perote Valley appears to have been declining sharply since 1994, GCM's first year of operation.¹⁰⁶ CAFOs require enormous quantities of water to operate, especially in the feeding stage. It is estimated that creating one pound of industrially-raised pork chops takes 576 gallons of water.¹⁰⁷

The American soda industry has capitalized on the shortage

102. Smithfield Foods Press Release, *Smithfield Foods, Inc. Forms Vertically Integrated Pork Processing Joint Venture in Mexico*, May 12, 1999, <http://investors.smithfieldfoods.com/releasedetail.cfm?releaseid=297159>.

103. Franco Ordonez, *Mexico is the Second Fattest Nation After U.S.*, SAN DIEGO TRIB., March 24, 2008, available at http://www.signonsandiego.com/uniontrib/20080324/news_1n24obese.html.

104. *Id.*

105. *Sins of the Flesh*, THE ECONOMIST, Dec. 16, 2004, available at http://www.economist.com/node/3507918?Story_ID=3507918; Catherine Rampell, *The World is Fat*, N.Y. TIMES BLOG, THE ECONOMIX, Sept. 23, 2010, <http://economix.blogs.nytimes.com/2010/09/23/the-world-is-fat/>.

106. Ponette-González, *supra* note 6, at 1109.

107. This figure includes the amount of water used to grow the necessary amount of animal feed. See CNBC.com, *Tracking Your Water Footprint*, <http://www.cnbc.com/id/>

of potable water in Mexico. Sugary soda drinks are almost ubiquitous, often offered as a “substitute” to water in public and private schools.¹⁰⁸ Mexico is a leading U.S. soda export market, and Mexicans consume more carbonated soft drinks, per capita, than any other population.¹⁰⁹ The 40% increase in childhood obesity since 2000¹¹⁰ prompted the Mexican government to recently ban the sale of sodas, sugary fruit drinks, and other “junk food” in primary and secondary schools.¹¹¹

2. Weaker Environmental & Public Health Standards

Compared to Mexico, the U.S. is less accommodating to industrial agriculture. The American agriculture lobby successfully advocated self-regulation for decades,¹¹² but the federal government, joined by some state legislatures, has finally begun to hold the industry accountable for environmental damages,¹¹³ and the U.S. Department of Justice is investigating alleged anti-trust violations.¹¹⁴ In addition, some citizens have been successful in nui-

39156898/ There_s_How_Much_ Water_In_My_ Hamburger?slide=14 (last visited October 7, 2011).

108. Ordenez, *supra* note 103 (citing a 2008 study conducted by the National Institute of Public Health).

109. USDA, FOREIGN AGRIC. SERV., GLOBAL AGRICULTURAL INFORMATION NETWORK REPORT: THE MEXICAN MARKET FOR SOFT DRINKS 2 (Aug. 20, 2009), <http://static.globaltrade.net/files/pdf/20091222064601.pdf>.

110. Ordenez, *supra* note 103.

111. Jo Tuckman, *Mexico Bans Junk Food in Schools*, GUARDIAN UK, May 27, 2010, <http://www.guardian.co.uk/world/2010/may/27/mexico-bans-junk-food-schools>.

112. KIRBY, *supra* note 39, at 300 (crediting Tyson Foods' influence in the EPA's decision to grant large CAFOs amnesty from Clean Air Act rules); *see also* David J. Wolfson & Mariann Sullivan, *Foxes in the Henhouse* in ANIMAL RIGHTS: CURRENT DEBATES AND NEW DIRECTIONS 205–06 (Cass Sunstein & Martha Nussbaum eds., 2004) (describing how lobbying at the state level redefined anti-cruelty laws so that “standard [agriculture] industry practices” were exempted). The hog industry has argued for voluntary reform, but been slow to adopt actual reforms. The FDA's appeal that animal food producers curtail their use of prophylactic pharmaceuticals was met with tepid, defensive responses. Similarly, the industry's stance on adopting more humane animal welfare practices has, for the most part, been limited to public relations opportunities. For instance, Smithfield announced in 2009 that it would begin phasing out gestation crates for breeding sows (a practice considered by many to be one of the most inhumane) and substitute group housing alternatives by 2015. It has since reneged on this well-publicized promise, on the grounds that it would be prohibitively expensive. The HSUS, *HSUS Exposes Inhumane Treatment of Pigs at Smithfield* (Dec. 2010), http://www.humanesociety.org/news/press_releases/2010/12/smithfield_pigs_121510.html (noting that Smithfield competitors Maxwell Foods and Cargill are 100% and 50% crate-free, respectively).

113. *United States v. Smithfield Foods, Inc.*, 191 F.3d 516, 519 (4th Cir. 1999) (affirming summary judgment for the government, which alleged Clean Water Act violations amounting to over \$10 million in civil fines)

114. William Neuman, *Justice Department Tells Farmers It Will Press Agriculture*

sance suit claims against neighboring CAFOs.¹¹⁵

The Mexican government has been able to do little to regulate the expansion of industrial farming, and federal water pollution laws are ineffective at protecting ground and surface water from point source or runoff contamination.¹¹⁶ When fines are levied, they are too inconsequential to deter repeat behavior, demonstrating the general lack of political will to manage the industry.¹¹⁷ As in the U.S., those with the most incentive to regulate CAFO facilities lack the political power to do so.

This is because industrial farms are often purposely sited in poorer communities, where politically disenfranchised residents will work for lower wages and under worse conditions.¹¹⁸ Those living within several miles of a CAFO typically suffer physical and mental ailments caused by the toxins in the air and water: respiratory and gastrointestinal problems, skin and eye irritations, headaches, and depression.¹¹⁹ With no civil tort options for remedy, they rely entirely on the government to protect their health. Perote Valley residents, some living less than 1.5 miles from a GCM hog feeding facility, waited two years for environmental inspectors to respond to complaints that the factories were making them ill. Inspectors found “several issues of concern” yet issued no fines.¹²⁰

This is only a brief introduction to how weak government oversight of industrialized farming has compromised the health and well-being of Mexican agrarian and urban populations. However, if Mexico attempts to reform NAFTA to correct trade imbalances, or to address the environmental, public health, or labor

Industry on Antitrust, N.Y. TIMES, Mar. 12, 2010, available at <http://www.nytimes.com/2010/03/13/business/13seed.html>.

115. Sylvia Hsieh, *Litigation Against Factory Farms Finds New Momentum*, LAWYERS USA, Sept. 13, 2010, available at <http://www.potts-law.com/2010/news/138-sept-13-2010> (reporting on two successful Missouri nuisance suits, in 2006 and 2010, which have prompted similar filings in Illinois, Indiana, Minnesota, Missouri, North Carolina, Oklahoma and West Virginia).

116. Ponette-González, *supra* note 6, at 1109.

117. *Id.*

118. BATRES-MARQUEZ, *supra* note 9, at 5; see also Tufts Policy Brief, *supra* note 17, at 1; Mike Ely & Linda Flores, *Strike at Smithfield: Workers Under a Changing Sky*, REVOLUTIONARY WORKER #76, (Jan. 2007), <http://revcom.us/a/076/smithfield-en.html>; *Landing in Storm Lake: Immigrant Meatpackers in the Heartland*, REVOLUTIONARY WORKER #920, Aug. 17, 1997, <http://revcom.us/a/v19/920-29/920/storm.htm>.

119. Ponette-González, *supra* note 6, at 1109 (noting that communities within 2 km of a typical-sized industrial hog operation are exposed to ammonia levels greater than forty times an acceptable, or “ambient,” level).

120. *Id.*

concerns mentioned here, it should expect considerable resistance from the powerful U.S. hog industry.

CC. Why the American Pork Lobby Resists NAFTA Reform

Although NAFTA has many critics, the major hog producers and packers are not among them.¹²¹ The U.S. National Pork Producers Council, which lobbied ambitiously for NAFTA's ratification, credits NAFTA policies for transforming a formerly "inconsequential market" to one with an export value at over \$762 million, reflecting a 580% rise in U.S. pork exports since 1993.¹²² However, the industry's desire to sustain this market is not the only reason it supports NAFTA in its current form.

Consider this scenario: A common complaint about NAFTA is that it does not impose uniform environmental restrictions; instead, it requires adherence to the "host" nation's regulations. As discussed, Mexican environmental regulations are comparatively permissive. It is argued that the prospect of incurring fewer environmental management costs encourages U.S. manufacturers to relocate to Mexico.¹²³ If the U.S. proposes that Mexico strengthen its environmental regulations vis-à-vis the U.S. and Canada, or requests any other meaningful concession, Mexico will be in a position to insist on concessions in the animal agriculture realm.

This, in turn, would necessarily involve a discussion about CAFO practices. U.S.-owned corporations would prefer to avoid such a public debate, as they are already concerned about how the developing Mexican retail sector perceives their products.¹²⁴ They see two related obstacles to establishing and growing brand loyalty for their industrially raised pork: lack of awareness about their products' reliability and consistency, and what they characterize as the "dissemina[tion of] false information in the media

121. See, e.g., *Malkin*, *supra* note 15; Carnegie Report, *supra* note 17, at 6-7; Sierra Club, *NAFTA's Impact on Mexico*, <http://www.sierraclub.org/trade/downloads/nafta-and-mexico.pdf>.

122. National Pork Producers Council, *Mexican Trucking*, (2008) <http://nppc.org/issues/mexicantrucking.htm>.

123. Ponette-González, *supra* note 6, at 1109.

124. USMEF, *supra* note 36, at 1-2 ("There is limited presence of U.S. pork in regional supermarket chains; notably in areas where pork is a popular protein source.").

about the quality and safety of U.S. pork entering the market.”¹²⁵ Thus, NAFTA reform negotiations about prophylactic antibiotic use, or animal confinement practices, would compromise the message that industrially-raised pork products are superior.¹²⁶

U.S. hog and pork producers also wish to influence U.S. trade policies on the other side of the equation, by lobbying for trade restrictions on pork imports from Mexico. One avenue for limiting Mexican pork imports is the Sanitary and Phytosanitary (SPS) Agreement, which allows WTO member nations to restrict imports for reasons having to do with human health or animal health. The restriction must be based on “sufficient scientific evidence.”¹²⁷ Although beyond the scope of this article, some SPS pork import requirements could be prohibitively difficult for smaller-scale Mexican hog or pork producers to fulfill; these include enhanced testing processes or controls to prevent the spread of swine diseases;¹²⁸ more stringent hygiene and inspection processes for slaughter facilities; or stricter packaging and transportation safeguards.

Another trade barrier option is the Technical Barriers to Trade (TBT) Agreement, which could be used to require that imported products meet certain labeling guidelines, for instance. The guidelines must be “necessary to fulfill a legitimate objective, taking account of the risks” of not fulfilling the objective.¹²⁹ An example of this is the U.S. Country of Origin Labeling Act (COOL), which requires many unprocessed food imports to bear a label indicating, in English, its origin. Mexico has challenged this trade barrier as a violation of TBT and other trade agreements.¹³⁰ Importantly, as the U.S. Meat Export Federation has reported, two can play this game; Mexico has also threatened to impose trade restrictions pursuant to these agreements.¹³¹

125. USMEF, *supra* note 36, at 1 (It is unclear whether the media discussed is American, Mexican, or both).

126. USMEF, *supra* note 36, at 2.

127. WTO, Agreement on the Application of Sanitary and Phytosanitary Measures, Apr. 15, 1994, 1867 U.N.T.S. 493; BATES-MARQUEZ, *supra* note 9, at 7.

128. Press Release, National Pork Producers Council, NPPC Urges USDA to Make Review of Mexican Pork Industry a Top Priority, Oct. 24, 2008, available at <http://nppc.org/News/DocumentSingle.aspx?DocumentID=23898>.

129. WTO, Agreement on Technical Barriers to Trade, Apr. 15, 1994, 1867 U.N.T.S. 3.

130. WTO, Request for Consultations by Mexico, *United States—Certain Country of Origin Labeling Requirements*, (Dec. 17, 2008), http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds386_e.htm.

131. USMEF, *supra* note 36, at 2 (observing that Mexico has increased pressure on

CONCLUSION

During the 2008 U.S. presidential campaign, then-Senators Barack Obama and Hillary Clinton advocated for reform or suspension of NAFTA provisions perceived to be detrimental to American interests.¹³² Three years later, this no longer appears to be a priority.¹³³ Notably, the Obama administration recently moved to fulfill the NAFTA provision allowing Mexican trucks to travel on U.S. highways, a policy reversal advocated heavily by the hog industry.¹³⁴

U.S. hog production and pork processing corporations operating on an industrial scale benefit tremendously from NAFTA. Domestically, U.S. corporations are confronting more restrictive environmental standards and increased scrutiny under anti-trust regulations. Less likely, but still possible, are the concerns that Congress will address inequitable feed commodity subsidies in the next Farm Bill, or will revise federal tax policies that incentivize relocation to Mexico. These realities make international expansion into less-restrictive locales, like Mexico, that much more strategic. Liberalized trade policies are the cornerstone of these expansionary efforts, and NAFTA was critical to transforming and industrializing the Mexican hog and pork markets. Mexico's traditional hog farmers—and the consumers of their pork products—have fared poorly under this transformation. As such, similarly-positioned countries would be wise to learn from NAFTA's lesson when seeking trade agreements with the United States.¹³⁵

U.S. exports to Mexico through its Red Meat Regulation “NOM-30” zero tolerance for salmonella requirements, and by allegedly considering animal welfare requirements).

132. CNN.com, *Clinton, Obama Go at it Over Trade*, Feb. 25, 2008, http://articles.cnn.com/2008-02-25/politics/clinton.obama_1_nafta-obama-camp-hillary-clinton?_s=PM:POLITICS.

133. When Mexican President Felipe Calderón visited the White House in early 2011, neither he nor President Barack Obama mentioned NAFTA reform in their public remarks. THE WHITE HOUSE, OFFICE OF THE PRESS SECRETARY, REMARKS BY PRESIDENT OBAMA AND PRESIDENT CALDERÓN OF MEXICO AT JOINT PRESS CONFERENCE (2011), available at <http://www.whitehouse.gov/the-press-office/2011/03/03/remarks-president-obama-and-president-calder-n-mexico-joint-press-confer>.

134. National Pork Producers Council Press Release, *supra* note 128.

135. Carnegie Report, *supra* note 17, at 6, 8 (“Trade liberalization is facing a crisis of legitimacy among people around the world, from rural farms in Latin America to cotton producers in Africa to manufacturing workers in the United States and Europe.”).