

The Origins of Economic Regulation in the United States: The Interstate Commerce and Bureau of Animal Industry Acts

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In April 1866, Senator John Sherman of Ohio reported to his colleagues on the spread of Rinderpest in Europe. This disease, known as “cattle plague,” was the most calamitous of all livestock diseases, and likely killed over 200 million cattle in Europe in the eighteenth century. It had recently reemerged on the Continent and in Britain, and the senators feared that it might jump to North America. To combat the disease, the British took extreme measures, quarantining property and districts, restricting movement, and destroying animals. Sherman noted that under the Constitution the federal government lacked police powers to follow the British example, and thus could not order the destruction of animals and property within states, so the states must pass laws for their own defense.¹

The powers of the federal government would change dramatically: by 1887, to combat another cattle disease, contagious bovine pleuropneumonia (CBPP), federal agents established quarantines *within* states, arrested violators, entered property without warrants, shut down rail traffic, ordered citizens to disinfect their property (including railroad cars), burnt down contaminated buildings, and destroyed cattle by the thousands. Cattle owners often needed a federal certificate to move, sell, or slaughter cattle even within a given locale, and butchers could only slaughter cattle if a federal agent was physically present. These actions represented an extraordinary peacetime use of federal police power to regulate individuals and inter- and intrastate commerce. The federal officials conducting these invasive policies were agents of the newly created Bureau of Animal Industry (BAI) that was housed within the United States Department of Agriculture (USDA). During Grover Cleveland’s first term, the BAI would become the USDA’s regulatory strike force to control livestock diseases.

It has been widely argued that the Interstate Commerce Act (ICA) of 1887, which established the Interstate Commerce Commission (ICC), represented the first significant step in the growth of federal economic regulation.² Theories of the rise of federal regulation typically focus on explaining the origins of the ICC, which was established to regulate railroads. A popular view is that the ICC represented a first step in the rise of Big Government as a counter to

¹ *Congressional Globe*, 25 April 1866, p. 2162.

² For one example see Thomas S. Gilligan, William J. Marshall, and Barry R. Weingast, “Legislative Choice: The Interstate Commerce Act of 1887,” *Journal of Law and Economics* 33 (April 1989), pp. 35-61. Also see <http://www.ourdocuments.gov/doc.php?flash=true&doc=49>. Some authorities add the qualification that the ICC was the first *independent* regulatory agency.

the rise of Big Business. It was an attempt to limit the exercise of market power and perhaps to redistribute wealth.³ The ICA also fits into a counter narrative, associated with the public choice school that argues that the ICC represented an attempt to limit competition.

But the ICC was neither the first nor the most aggressive federal regulatory agency of the late nineteenth and early twentieth centuries; the BAI, established by the BAI Act of 29 May 1884, was founded earlier, was far more powerful, and had a greater impact than the ICC. The countervailing power and anti-competition paradigms common in framing the ICA are not useful for understanding the BAI Act. The BAI was designed to create an environment free of contagious livestock diseases; essentially a global public good. The agency would eventually be empowered to regulate both small and large enterprises in every state, including railroads and meatpacking plants. There is little evidence pointing to the BAI being captured; to the contrary, the BAI often captured the industries it regulated as business leaders saw the trade promoting and *productivity* benefits of federal regulations.⁴

Even in the limited realm of railroad regulation, the BAI's activities were far more intrusive and consequential than the ICC's. Based on BAI recommendations, the USDA issued detailed railroad regulations to control CBPP and other diseases. In 1889, the BAI segregated the American cattle trade, requiring separate railroad cars, pens, and feeding stations for southern cattle travelling to northern markets to stop the spread of Texas fever. In the first years of the twentieth century, three-fourths of the United States was under strict federal lockdown to control the spread of three parasitic diseases: cattle scab, sheep scab, and Texas fever. To move cattle and sheep, railroads needed documentation, often including certification that the animals had been dipped at federally approved facilities to kill the parasites; the railroads had to segregate cattle and sheep originating in infected states from other livestock traffic; and the animals could only be shipped for direct slaughter (as opposed to being put onto pasture for breeding or fattening). The BAI even specified the chemicals that the railroads had to use to sanitize their cars and facilities, and federal agents supervised and approved the cleansing processes. There

³ Price V. Fishback et al., *Government and the American Economy: A New History* (Chicago: Univ. of Chicago Press, 2007).

⁴ Samuel P. Huntington repeats the mantra that the ICC "is the oldest transportation regulatory commission, and with the exception of the Corps of Engineers it is the oldest federal agency of any type with major transportation responsibilities." He then listed 13 other federal agencies with transportation responsibilities, but fails to mention the BAI. The BAI was not a commission, but it in fact exercised major powers in regulating transportation. Samuel P. Huntington, "The Marasmus of the ICC: The Commission, the Railroads, and the Public Interest," *Yale Law Journal* 61: 4 (April 1952), pp. 467-506, esp. 467.

were serious legal consequences for non-compliers. These regulations represented the entering wedges in a federal regulatory system that by the 1920s would begin to send BAI agents onto nearly every farm in the nation to test cattle for bovine tuberculosis. Despite violent protests, including riots in Iowa suppressed by the imposition of martial law, federal and state agents ordered the slaughter of over four million cattle.

In regulating railroads and livestock, Congress was interfering with large, technologically dynamic, and geographically diverse industries. During the late nineteenth century, the capital stock (valued at current dollars) invested in livestock and accoutrements exceeded that invested in railroads.⁵ Both industries were rapidly changing—the location of livestock production was moving west (in large part because of railroads), the dairy industry was growing rapidly, and farmers were investing heavily in breed improvements with significant impacts on cattle, swine, and sheep productivity.⁶ In the late 1870s, livestock and animal products accounted for about 20 percent of all U.S. merchandise exports. The growth of large packing firms not only signaled a change in industrial organization, it opened the way for rapid changes in the export trade as brand-named packed meats supplanted the live animal trade.⁷

To support our claim as to the BAI's priority and importance, this paper contrasts several features of the BAI with the ICC: the debate and changing coalitions leading up to the passage of the two acts; the impact of the courts in stimulating the drive for federal legislation; the regulations' respective impacts on the economic and firm behavior; and their contributions of the general welfare of the nation. The contrast will show that the BAI legislation and the Bureau's subsequent regulatory policies confronted a far more complex set of issues than the ICA and subsequent ICC policies. In addition, the BAI policies would establish novel templates for state-federal cooperation, for organizing biological research and transferring research findings to promote economic development, and for what epidemiologists would later call the "area eradication model."

A spinoff of this analysis of a disease control bureaucracy offers new perspectives into the ICC's origins and significance and more generally into the broader narrative on the political

⁵ Robert Gallman, "Capital Stock Estimates," unpublished papers.

⁶ Alan L. Olmstead and Paul W. Rhode, *Arresting Contagion: Science, Policy, and Conflicts over Animal Disease Control* (Cambridge, Mass.: Harvard Univ. Press, 2015), pp. 248-329.

⁷ Trade data compiled from US Treasury Department, *Monthly Summary*, Feb. 1900, p. 2309; Susan Carter, et al. *Historical Statistics of the United States, Millennial Edition*, Vol. 5, Series Ee446 (New York: Cambridge Univ. Press, 2006).

economy of regulation in the Progressive era. Much has been written on the ICC, and to simplify our comparison, we rely heavily on the framework offered by Thomas Gilligan, William Marshall, and Barry Weingast (GMW).⁸

⁸ Gilligan, Marshall, and Weingast, "Legislative Choice," pp. 35-61.

The Congressional Debates: Reagan and Cullom

The lead-ups to the ICA and the BAI Act both played out over several sessions of Congress. The major concerns underlying the ICA debates were the claims that the railroads were exercising monopoly powers to discriminate against short-haul shippers and that the practice of granting rebates to powerful customers such as John D. Rockefeller created an uneven playing field that discriminated against smaller producers. Legislation calling for railroad regulations passed the House in 1874, 1878, and in the lame duck session following the 1884 elections. The first passage in Senate occurred in lame duck session of 1885, but the Senate and House delegates failed to reach a compromise. Bills passed both houses in 1886 but the two houses again failed to reach an agreement. The final bill was signed in to law by President Grover Cleveland on 4 February 1887.⁹ GMW characterize Senator Shelby Cullom, an Illinois Republican, as the sponsor of what they term the “pro-railroad” Senate bill; and Representative John Reagan, a Texas Democrat, as the sponsor of the anti-railroad House bill that was more in line with the interests of many shippers.¹⁰

The Act that passed included (a) short haul pricing constraint (SHPC); (b) a prohibition on rebates, drawbacks, and pooling together with a requirement that all rates be posted and “reasonable and fair;” and (c) provisions creating a federal commission (the Interstate Commerce Commission) to adjudicate conflicts. As G. W. Hilton noted, these provisions were “outrightly inconsistent,” in large part because of the awkward merging of Reagan’s and Cullom’s views.¹¹

The Commission’s administrative structure reflected Cullom’s position and ran counter to Reagan’s desire to draft a general law with “specific, enforceable limits” applied through the state and federal courts. Reagan and his fellow agrarians did not want to give an expert commission “broad, discretionary powers” because he feared railroad capture.¹² The SHPC reflected the demand of Reagan to prevent long-haul short-haul discrimination. The anti-rebate provision reflected the position of Cullom, who also unsuccessfully sought to grant railroads the power to pool traffic and avoid ruinous competition.

⁹ I. Leo Sharfman, *The Interstate Commerce Commission: A Study of Administrative Law and Procedure*, Part One (New York: Harper & Row, 1931); Robert E. Cushman, *Independent Regulatory Commissions* (Oxford, Eng.; Oxford Univ. Press, 1941).

¹⁰ Gilligan, Marshall, and Weingast, “Legislative Choice,” p. 60.

¹¹ G. W. Hilton, “The Consistency of the Interstate Commerce Act,” *Journal of Law and Economics* 9: 2 (Oct. 1966), pp. 87-113. Stephen Skowronek, *Building a New American State* (New York: Cambridge Univ. Press, 1982).

¹² U.S. Congress, Interstate Commerce. Debate in Forty-Eighth Congress, second session on the bill (H.R. 5461), Reagan testimony on 2 Dec. 1884, pp. 20-21.

The support for both the ICC and the BAI laws increased because of Supreme Court decisions. In the case of the ICC, the 1877 *Munn v. Illinois* decision evidently influenced Reagan that federal regulation was constitutional.¹³ In addition, GMW credit the 1886 *Wabash v. Illinois* decision that “struck down state regulations of railroads attempting to control the rates of commodities hauled in interstate commerce” with helping to break the deadlock to a compromise on the ICA.¹⁴

The case of *Hannibal and St. Joseph Railroad Co. vs. Husen*, 95 U.S. 495, (1878) played a similar role in increasing support for federal animal disease controls. In *Husen* the Supreme Court struck down an 1872 Missouri statute that had prohibited any Texas, Indian, or Mexican cattle from entering the state to protect Missouri cattle from Texas fever. This decision drastically limited all states’ ability to police their borders.¹⁵ However, there is an important contrast underlying the *Wabash* and *Husen* decisions that would arise frequently. The Court’s ruling in *Husen* that the blanket interference with commerce went “beyond what is absolutely necessary for self protection” was based not just on constitutional principles, but also on the scientific understanding of the day. To bar the movement of animals into the state, Missouri officials somehow had to be more selective and target just those, which they could demonstrate were dangerous. This was an impossible requirement to meet given the state of scientific knowledge.

The long association of animals with railroad legislation has not be fully appreciated. Even before the immediate run up to the BAI Act and subsequent BAI orders regulating railroads, the first federal regulation of railroads to be enacted into law (apart from Civil War measures) was HR 694, “a bill to prevent cruelty to animals in transit on railroads,” signed by President Ulysses S. Grant on 3 March 1873. The Department of the Treasury could draw on federal marshals to enforce the bill and prosecute violators. This bill, which required that livestock in transit be offloaded every twenty-eight hours to be watered, was contested on

¹³ Keith T. Poole and Howard Rosenthal, “Congress and Railroad Regulation: 1874-1887,” in Claudia Goldin and Gary D. Libecap, eds., *The Regulated Economy: A Historical Approach to Political Economy* (Chicago: Univ. of Chicago Press, 1994), p. 99; entire article is pp. 81-120. See also Ben H. Proctor, *Not Without Honor: The Life of John H. Reagan* (Austin, TX: Univ. of Texas Press, 1962), pp. 218-60. At first blush, Reagan’s flexibility goes against the pattern described in Keith T. Poole, “Changing Minds, Not in Congress,” 2003. Members of Congress, once elected, “adopt a consistent ideological position and maintain it over time.”

¹⁴ Gilligan, Marshall, and Weingast, “Legislative Choice,” p. 51, fn. 44. Poole and Rosenthal maintain that *Wabash* case came too late to have much effect on the ICC passage.

¹⁵ *Railroad Co. vs. Husen*, 95 U.S. 495 (1878).

grounds that would foreshadow the subsequent debates regulating livestock diseases. Opponents saw it as an unconstitutional extension of federal powers to regulate trade. Railroads staunchly opposed the measure. The votes in the House also foretold subsequent divisions. As an example, on a roll call vote of 11 April 1872, Republicans divided 91-4 in favor, while Democrats voted 68-6 against. Only one of the 28 southern Democrats voting, favored the legislation. Bills to strengthen the provisions of the 1873 act were debated in 1874, 1878, and 1879.¹⁶

Senate bill No. 206, debated on 26 and 27 May 1879 combined animal welfare with disease control. It continued a 28-hours-unloading mandate and authorized the Commissioner of Agriculture to employ inspectors at ports to certify that animals destined for export were free of infectious and contagious diseases.¹⁷ This latter provision was aimed at reversing recently imposed British and Canadian restrictions on the U.S. live cattle trade because of concerns about contagious bovine pleuropneumonia (CBPP) and would be a regular feature of subsequent animal disease control legislation. The debate occupies over 20 pages in the *Congressional Record*, with the leading opponents, including Samuel Maxey, a southern Democrat from Texas, and Daniel Voorhees, a northern Democrat from Indiana. Voorhees decried the growth in the federal bureaucracy and the arbitrary powers granted to political appointees who would have the “power at any port to destroy the sale of any merchant’s cattle....” This power would open the doors to “constant bribery and corruption.” Voorhees and his Senate allies succeeded in killing the bill.¹⁸ Several bills dealing with the control of infectious and contagious livestock diseases were introduced in the House and Senate in 1880. These early bills struggled to define an institutional structure for regulating diseases: should it be in the Department of Agriculture, the Department Treasury, the Department of the Interior, or perhaps in the new National Board of Health?

Several factors prompted the calls for federal legislation. The first was a deteriorating animal disease environment as new diseases such as CBPP were introduced to the United States and spread, and as established diseases, most importantly Texas fever became an increasing problem. Transportation improvements facilitate a growth in the animal trade that added to the

¹⁶ *Chicago Tribune*, 7 Oct. 1873, p. 1; *New York Times*, 27 Jan. 1875, p. 10; 17 March, 1878, p. 1; *Congressional Globe*, 11 April 1872, pp. 2381-83.

¹⁷ *New York Times*, 27 Jan. 1875, p. 10; 4 May 1878, p. 1; 5 June 1878, p. 1; 23 May 1879, p. 3; 27 May 1879, p. 6; 28 May 1879, p. 1; *Chicago Tribune*, 25 Jan. 1878, p. 1; 8 Feb. 1878, p. 2; 22 March 1878, p. 2; 21 May 1878, p. 1; 28 May 1879, p. 1; 4 April 1879, p. 12

¹⁸ *Congressional Record* 27 May 1879, pp. 1610-20, 1625-34; also see 21 Feb. 1879, pp. 1704-07.

worsening environment. The increase in the concentration of animals in stockyards and dairies, along with an increase in selective breeding, which involved more intermingling of stock, also added to the problem. A second factor motivating federal action was that in 1879 many European nations began enacting measures to restrict the imports of U.S. animals and animal products because of the threat of livestock disease and concerns for human health. Legislative advocates hope that federal intervention might help reopen European markets by wiping out the diseases in the United States or perhaps by providing credible inspection certificates indicating that specific animal shipments originated in uninfected areas. Recent scientific advances associated with the Germ Theory of Disease and the development of a fledgling cadre of experts gave hope that preventative measures might be effective. A few European trained veterinary scientists, would play pivotal roles by providing information and lobbying for animal sanitation legislation. Dr. Daniel E. Salmon, who would become the BAI's founding chief, was especially influential in these campaigns. At this point, there was little concern with monopoly power or price discrimination, which were important factors in the ICA discussions.

The first bills explicitly calling for the creation of a 'bureau of animal industry' reached the floor of both houses in February 1881. After vigorous debates these bills were tabled. On 16 December 1881, Representative William Hatch, a Democrat from Missouri, introduced a new bill (HR 896) that in spite of rancorous opposition passed the Republican House in June 1882.¹⁹ The road was rougher in the Senate and after a brief debate was tabled by a vote of 27 to 22 on 3 August 1882. This killed the legislation for the year. GMW emphasized that in the run up to the formation of the ICC, the Senate often blocked reformist legislation coming from the House. It was also the "legislative graveyard" at this stage of the BAI controversy.

As the 48th Congress convened, there appeared little chance for success because the Democrats had regained control of the House. (See Table 1, which details the composition of Congress from 1879 to 1891.) Nevertheless, in January 1884, Hatch introduced a new bill (HR 3967). At several junctures during the prolonged debate, the bill barely survived—in one case a motion to kill the bill ended in a tie and then lost on a recount by a vote of 114 to 118. After

¹⁹ *Congressional Record*, 19 June 1882, p. 5113-16; 16 Dec. 1881, p. 158.

several key amendments, which significantly weakened the bill, it passed on 28 February 1884 by a vote of 155 to 124.²⁰

The Senate took up HR 3970 on 12 March 1884 and passed a heavily amended version on 29 April 1884. The Senate bill now met with disapproval from the stronger supporters in the House; the House voted to non-concur and sent it back to the conference committee in the hope of obtaining some concessions, but to no avail. The House accepted the Senate bill on 24 May 1884, and President Chester Arthur signed it on 29 May 1884.

The BAI Act was unique. Political scientists, Gary W. Cox and Mathew D. McCubbins, have spent decades studying the federal legislative process. In *Setting the Agenda*, they concluded that the Speaker of the House of Representatives did not allow a floor vote on significant bills that were likely to be approved by the Senate and signed by the President unless a majority of the Speaker's caucus supported the bill. (This is now dubbed the Hastert rule.) Out of the thousands of bills that Cox and McCubbins studied in the period from 1877 to 1960, the BAI Act was the *only* significant bill to pass in which a majority of the party in power in the House (in this case the Democrats) opposed the legislation.²¹ The participants in this historic debate were aware that something exceptional was going on, and the bill's critics within the Democratic Party repeatedly reproached the bill's Democratic sponsor, William H. Hatch of Missouri. Understanding this highly unusual congressional maneuvering over the BAI offers important insights into the broader narrative on the political economy of regulation. More than just seeking to "get the story straight, the history of the BAI offers a reference point for critiquing the literature in the origins of the ICA and other of economic regulations of the Progressive era.

In both houses Texans orchestrated the opposition to the various BAI bills. They were joined by an evolving coalition that included most southerners, Bourbon Democrats, strict constructionists from both major parties and all regions, and legislators concerned about the concentration of power in Washington, DC. In the face of mounting evidence to the contrary,

²⁰ *Congressional Record*, 28 February 1884, p. 1465. In debates on 27 February, Hatch's version of the BAI bill ran into trouble over provisions in its Section 4 granting the U.S. Commissioner of Agriculture powers to quarantine states. After Section 4 was amended in ways that Hatch thought rendered the bill ineffectual, he moved to strike out the section entirely. On 28 February, the House voted on an amendment to strip out Section 4. Although Hatch sponsored the amendment, he voted nay. *Sacramento Record-Union*, 28 Feb. 1884, p. 1.

²¹ Gary W. Cox and Mathew D. McCubbins, *Setting the Agenda: Responsible Party Government in the U.S. House of Representatives* (New York: Oxford Univ. Press, 2005).

leading opponents steadfastly maintained that there were no serious disease problems. Denialism was rampant. Senator Richard Coke, a Texas Democrat, asserted that Texas fever “is not a disease,” and that Texas cattle were perfectly “healthy.”²² He boldly stated that “there is no pleuro-pneumonia in this country,” even though the disease’s existence in several eastern states was well documented. The other Texas Senator, Samuel Maxey, protested that the bill would give the Commissioner of Agriculture greater powers than those possessed by the “Czar of Russia or the Shah of Persia.” Senator John McPherson, a New Jersey Democrat asserted CBPP could not exist “for an hour under our [state] laws.”²³ At this time, the disease was well established in the Garden State. The opponents further argued that even if there were problems, there was nothing that could be done to mitigate them. Others continued to deny that disease threats were serious. Senator William Sewell, a New Jersey Republican, equated CBPP to “chicken-pox in children,” an omnipresent nuisance, but of little concern. This is spite of testimony that CBPP had spread into the open ranges of Australia and South Africa killing millions of cattle, and that it had devastated British herds.²⁴

The opponents derided expert testimony: the scientists supporting regulations were “horse doctors,” who peddled false rumors and frighten domestic and foreign consumers to manufacture more employment for veterinarians. There were also disputes as to whether the legislation should apply to all infectious and contagious livestock diseases or to just one or two—most prominently CBPP and Texas fever. Would it apply to livestock other than cattle? Debates focused on the evils of building a federal bureaucracy that could arbitrarily interfere with trade and destroy the wealth of honest businessmen. Given that there was little prior history with creating such a bureaucracy, legislators delved into minutia such as the exact number of employees and their proposed salaries. A key question concerned how much Congress should specify the minutia of rule-making as opposed to giving discretion to the executive branch.²⁵

Proponents perceived the world differently. For the BAI supporters, the Constitution’s “General Welfare” Clause (in the Preamble) and its Commerce Clause (Article 1, Section 8, Clause 3) provided ample grounds for federal intervention. Based on the new germ theory of

²² *Congressional Record*, 12 March 1884, p. 1795; 23 April 1884, p. 3288.

²³ *Congressional Record*, April 29, 1884, p. 3528, April 23, 1884, pp. 3290, 3289.

²⁴ *Congressional Record*, 3 Aug. 1882, p. 6828; *New York Times*, 9 July 1860, p. 2; US BAI, *Report for 1884*, pp. 51-54, 297-309.

²⁵ Olmstead and Rhode, *Arresting Contagion*, pp. 45-46.

disease, they envisioned a dynamic world filled with both perils and opportunities. Livestock diseases inevitably will “increase as our animal population increases, as new diseases are introduced, and fresh areas are infected.”²⁶ The bureau’s advocates were typically sympathetic to the evolving science, and they understood that contagious diseases ignored state boundaries.

Of particular interest for our purposes in contrasting the BAI Act with the ICA were the debates on the constitutional authority of the federal government to suppress animal diseases, because these debates struck at the very heart of States’ rights, the separation of powers, and the interpretation of the Commerce Clause of the Constitution. On this issue the views and voting records of the sponsors of the ICA, John Reagan in the House and Shelby Collum in the Senate were dramatically opposed to one another. Reagan’s stance (and those of his Texas colleagues in the House and the Senate) was consistently hostile to animal sanitation legislation. Reagan, who was respected for his legal expertise, focused on constitutional issues leaving his colleagues to contest the very existence of diseases and the need for any controls. On several occasions, Reagan specified parts of the bills and found each in violation of the federal Constitution.²⁷

Reagan’s position was clear: the federal government could regulate commerce among the states and between the United States and foreign countries (along with the internal commerce of the District of Columbia and the many territories). The states had sole jurisdiction within their borders, and the states were perfectly capable of protecting their citizens from diseased animals. By this standard even a feature of several versions of the bill, which empowered the representatives of the Commissioner of Agriculture “to investigate and report upon the number, value, and condition of the domestic animals of the United States, their protection and use, and also inquire into and report the causes of contagious, infectious, and communicable diseases among them, and the means for the prevention and cure of the same, etc.” was unconstitutional. Reagan noted that “this provision authorizes the Commissioner by his agents to go into each State—not to take charge of interstate commerce, but to perform all that a local State tribunal could perform.” Section four of the bill allowed the President to quarantine a state or part of a state should the state fail to take sufficient steps to extirpate the disease and cooperate with federal officials. (The provision to quarantine part of a state would be dropped in the final bill that passed.) Reagan deemed this provision a penalty inflicted upon a State for not consenting to

²⁶ *Congressional Record*, 5 Feb. 1884, pp. 901-02.

²⁷ *Congressional Record*, 6 Feb. 1884, p. 928; 26 Feb. 1884, p. 1404.

a violation of the Federal Constitution.” In Reagan’s opinion, the BAI bill was a serious threat to “liberty” and to “property and personal rights,” and usurped police powers reserved to the states.²⁸ His solution was for each state to address disease problems within its territory. If a disease existed within a state and that state chose not to act or chose to deny its existence, the federal government could regulate trade across the state lines but there was nothing the federal government could do within the state.

Although many congressmen criticized Reagan as being inconsistent for pushing to regulate railroads while at the same time opposing disease regulations, his stances were not far out of line. Reagan was willing to use federal power to curb railroads but in a nuanced way. Although as part of the House-Senate compromise, he approved the creation of the ICC, he had long opposed creating a federal bureaucracy, preferring to settle disputes in the courts. Reagan moved from the House to the Senate in 1887. When Reagan left the Senate in 1891 to assume the chair of the Texas Railroad Commission, he had no qualms about heading a powerful and intrusive state body, but so long as the Railroad Commission focused on intrastate commerce Reagan was consistent with his stated principles.²⁹

Cullom consistently voted with the BAI bills’ supporters, but there is no evidence in the *Congressional Record* that he participated in the several debates. However, he did speak forcefully on a closely related bill.³⁰ The Senate debate on the BAI bill was interrupted in 3 March 1884 after Kansas Governor G. W. Glick alerted Commissioner of Agriculture George Loring that foot and mouth disease (FMD) had erupted in his state; Glick asked Loring to send a veterinarian because “no one here can advise what to do.” Glick proved to be mistaken and the mysterious disease would later turn out to be a far less serious ailment that mimicked FMD, but at the time this represented an emergency that threatened the entire nation’s livestock industry. Many might dally when faced with CBPP or Texas fever; but FMD, which is one of the most contagious viruses known to science, presented a far more serious threat. FMD had a way of altering otherwise rock-solid constitutional views.³¹

²⁸ *Congressional Record*, 6 Feb. 1884, p. 929; 26 Feb. 1884, pp. 1401, 1405; 24 April 1884, p. 3343.

²⁹ “Hazardous Business: John H. Reagan and Early Regulation,”

<https://www.tsl.texas.gov/exhibits/railroad/early/page4.html>, downloaded 5 March 2017.

Skowronek, *New American State*, p. 158 adds that after becoming “railroad commission in Texas, Reagan was no longer willing to cater to radical agrarian sentiments. He completely reversed his former position and now advocated governmentally supervised pools coupled with administrative supervised of railway charges.”

³⁰ *Chicago Tribune*, 18 March 1884, p. 1.

³¹ Olmstead and Rhode, *Arresting Contagion*, pp. 57-59.

On 13 March 1884, a bill was introduced in the Senate to allow the Commissioner of Agriculture to assist Kansas to stamp out the disease. During this debate, Cullom called for strengthening the legislation “so as to extend to all portions of the United States, and to include not only the disease specified in the resolution, but any other of the contagious diseases among the stock of the country.”³² The principal opponents to the FMD measure, following their reasoning on the BAI bills, asserted that it meddled in the domestic affairs of a state government, and was thus unconstitutional. Cullom countered that “under the provision of the Constitution providing for the general welfare and other provisions giving Congress authority to regulate commerce among the several States, we are justified in going as far as the exigencies of the times demand in our efforts to extirpate, if possible, the contagious diseases that afflict the cattle and hogs of the country.” Federal intervention, not just federal money, was necessary because it was “utter folly” to suppose that the several state and territorial governments could act in an effective and coordinated fashion.³³

Cullom explicitly linked the need for federal intervention to control animal diseases to the growth in the international and interstate trade—the growing diseases problem was, in his mind, an unavoidable consequence of the growth in rapid rail transportation.³⁴ He recalled that while governor of Illinois he had instituted “a sort of inspection, but it was the merest trifle,” given what he considered the Constitutional constraints on state interference with interstate commerce.³⁵ Cullom also pointed to the devastating European embargoes recently imposed on American animal and animal product exports. Although he (incorrectly) considered American meat and animal exports safe for human consumption, he argued that the mere existence of diseases in the United States gave foreign governments an excuse to suppress trade—federal intervention to control diseases was essential for reopening foreign markets. Cullom’s stance on federal authority under the Commerce Clause, on states’ rights, and on the need to promote the

³² *Congressional Record*, 17 March 1884, p. 1965

³³ *Congressional Record*, 17 March 1884, p. 1965.

³⁴ *Congressional Record*, 17 March 1884, p. 1965.

³⁵ In fact, Cullom had taken relatively forceful measures as governor of Illinois. Under his leadership, Illinois prohibited imports of cattle from areas in the East known to be infected with CBPP in 1881. Several other western states followed suit. Westward shipments from New York fell from 100,000 young cattle in 1880 to “practically none at all.” *New York Times*, 17 July 1881, p. 1; 2 Nov. 1881, p. 2; 6 Jan. 1883, p. 2; 10 Jan. 1884, p. 2; *Breeder’s Gazette*, 31 Jan. 1884, pp. 146-47.

general welfare closely mirrored the position expressed by the BAI bill's sponsors in the early 1880s and was the polar opposite of Reagan's position.³⁶

For BAI supporters, Reagan's position was unreasonable and unworkable. Many state governments had repeatedly denied the existence of diseases in their territories or downplayed their significance. In addition, states contested the rights of other states to restrict the trade in diseased livestock. As of the early 1880s, most states had yet to pass legislation that would permit strong quarantines and the destruction of property necessary for disease suppression.³⁷ Those that had passed legislation often lacked the will to act decisively given the power and denial tactics of special interests. Everywhere, the passage of such legislation would prove contentious, and as history played out, effective state laws often followed or were influenced by federal legislation and guidelines. In addition to lacking an effective legal setting and bureaucratic structure, as the 1884 Kansas FMD scare illustrated, most states lacked competent scientific personnel to identify and fight most infectious livestock diseases. A group of trusted experts, who were financially and politically distant from a local outbreak, would prove essential to implementing effective control measures and certifying infected regions free of disease to reopen trade. During outbreaks, the claims of politicians, bureaucrats, and livestock owners and dealers in the infected area carried little currency with outside observers, both domestic and foreign. Disease control represented a case where local "experts" and politicians were not as knowledgeable, competent, or efficient as professional outsiders who were less swayed by powerful local interests. To rely on the states to act individually or in a coordinated fashion in the 1880s, guaranteed inaction.

There was another key distinction between regulating diseases and railroads: disease regulation had to grapple with a complex array of market imperfections that were far more bewildering than dealing with the monopoly power of railroads. Externalities were ubiquitous. Given a long incubation period, animals capable of transmitting contagious and infectious diseases could appear perfectly healthy. Asymmetric information abounded, and farmers and animal traders had an incentive to sell diseased or suspect animals and even cautious buyers would have a hard time determining the true facts of the case. Animals could be doctored to disguise the existence of some diseases or could be butchered in a way to hide the fact from

³⁶ *Congressional Record*, 17 March 1884, p 1966.

³⁷ Olmstead and Rhode, *Arresting Contagion*, p. 79.

consumers that the meat came from a diseased and potentially dangerous source. Contagions could spread rapidly among livestock, making delays in interventions extremely costly. A delay of one day could matter as railroads carried infections across the country. The organizational structures of the BAI and the ICC reflected these different demands for speedy and decisive action. Rather than a cumbersome commission, the BAI was headed by one man—a chief—who by statute was to be a scientist. Within a few years after the BAI’s creation BAI Chief Salmon would be granted extraordinary powers. A succession of (commissioners and) secretaries of agriculture and presidents of the United States, including strict constructionists such as President Grover Cleveland and his conservative USDA leaders, Norman Coleman and J. Sterling Morton, seldom reined in their ever more aggressive BAI chief. As we shall discuss below, by contrast the ICC was weakened soon after its establishment.

Reagan’s preferred plan to use the tort system to control railroad violations of federal laws represented an inefficient alternative for controlling animal diseases despite recent interest in this idea.³⁸ Historically, the tort system provided little recompense to aggrieved parties. The information costs of proving who was responsible for infecting one’s animals or one’s family can be exorbitantly high. This is especially true for diseases that have long incubation periods. In addition, one source could infect many victims, creating free rider problems in establishing claims. The effects of a contagion can be catastrophic, wiping out animals in a large area and in the case of zoonotic diseases killing many, even thousands, of humans. Few if any perpetrators would have the deep pockets to compensate for such appalling damages even if it could be proven that they were the source of the contagion. Handling contagious diseases *ex post* also increases the likelihood that diseases might spread to third parties. For this reason, it typically is much cheaper to arrest contagions *ex ante* via regulations before they can spread. Finally, relying on the torts system could be counterproductive for other reasons. One way to detect diseases is to encourage farmers to report suspicious conditions in their stock. It is often a wise policy to compensate farmers for part of their losses to encourage early reporting. Imposing damages on them in the court system could discourage self-reporting.

³⁸ Edward L. Glaeser and Andrei Shleifer, “The Rise of the Regulatory State,” *Journal of Economic Literature* 41, no. 2 (June 2003), pp. 401-25, esp., p. 418; Andrei Shleifer, “The Enforcement Theory of Regulation,” in *The Failure of Judges and the Rise of Regulators*, edited by Andrei Shleifer (Cambridge, MA: MIT Press, 2011), p. 4.

Another major distinction between railroad regulation and disease control made Reagan's constitutional arguments a prescription for federal inaction. As noted, Reagan conceded that the federal government could regulate interstate commerce, but how it could do this when it could not operate within states? ICC investigators could be far less intrusive and leave a much smaller footprint within a given state than animal health investigators. All regulation was not the same. An ICC investigator could hear complaints, check published rates versus invoices, and interview shippers and in principle, if necessary, this could all be done in Washington, DC, or perhaps in a federal building within a state. Animal-disease investigators had to visit farms, inspect railroad pens and cars, check river traffic, monitor trails, and later inspect meat packing plants. The monitoring of specific animals might take minutes or weeks. Sometimes agents chained individual bovines and locked them in place. Decisions often had to be made on the spot. Diseased and suspect animals had to be segregated and possibly destroyed—sometimes rapidly, with compensation, if any, to be determined later. To add to the perceived intrusion, the basis for diagnosis was often extremely controversial and at times contested by competing “experts.” With some diseases, such as FMD, it was necessary to cull apparently healthy animals that had been in proximity with diseased animals. This was a prickly process that required strong police powers to be effective and necessarily intruded on state prerogatives.

Reagan's opponents recognized that he was setting a constitutional standard that was in fact inconsistent with any effective federal disease regulation. For example, Representative John Anderson, a Republican from Kansas, asked how wide was a state line?

Here is a cow, let us suppose, standing over such a line, with her tail and body in Kansas, say, while her neck, head, and horns, are sticking over into Missouri.... Under the Democratic construction of the State-rights doctrine you might possibly find a point the hundred-thousandth part of an inch wide just above the State line into which you might constitutionally put a knife and kill that part of the cow. But you would have no right to kill either part of the cow which was sticking over. Under this doctrine, contagious diseases could threaten the entire livestock industry with annihilation and federal government was powerless to “save this industry except upon an imaginary line between two states.”³⁹

The definition of states' boundaries and rights were clearly at issue in the BAI debates.

³⁹ *Congressional Record*, 6 Feb. 1884, p. 930.

The Organic Legislation

Both the ICA and the BAI Acts that finally passed represented compromises. As GMW note, the ICA failed to provide railroads a mechanism for stable cartel management, and contrary to Cullom's position it prohibited pooling of traffic. It established nondiscrimination rules and prohibited rebates.⁴⁰

The BAI Act that passed was a mere shadow of what its sponsors had hoped for and what had been in many earlier bills or even the bill that came out of the House in late February of 1884. Some of the bills' contents are summarized below with major cuts in the Bureau's authority or budget in bold. The final bill is attached as an appendix.

- a. **Budget:** Several bills including the final bill introduced in the House in January 1884 called for an annual budget of \$250,000. **The Senate bill that became law reduced the budget to \$150,000.**
- b. **Coverage:** In most bills, including the bill that became law, there was an emphasis on controlling CBPP, but there was a boilerplate clause applying to other contagious, infectious, or communicable diseases so that in fact the legislation had broad coverage. **In the final bill a new feature appeared. It contained an amendment, introduced to appease southerners and at the behest of Chicago interests, declaring that "Texas fever shall not be considered a contagious, infectious, or communicable disease ... as to cattle being transported by rail to market for slaughter, when the same are unloaded only to be fed and watered in lots on the way thereto."** (With scientific advances, this amendment lost much of its punch by the end of the decade.)
- c. **Bureau staff:** There was much bickering here. Some proposals called for a representative in every state, others wanted to limit the staff to a handful of agents. The final bill called for four enumerated staff including the chief and a maximum of 20 other employees.
- d. **Presidential quarantine powers:** The final bill introduced in the House authorized the President of the United States to quarantine any state (or part of a state) should a state not cooperate with federal authorities; this was amended in the House, so that the bill sent to the Senate required the President to gain the approval of a state's governor before imposing a quarantine. When the bill came out of the Committee on Agriculture and

⁴⁰ Gilligan, Marshall, and Weingast, "Legislative Choice," pp. 36, 52.

Forestry in the Senate, the provision that the President obtain the assent of a governor was dropped. **The final Senate bill that became law significantly weakened the bill by gutting all reference to presidential quarantine powers.**

- e. **Set rules:** It authorized the Commissioner of Agriculture to set rules for disease suppression and to certify the rules of the various states and territories. The Commissioner's rule setting authority also applied to transportation companies and to livestock destined for export.
- f. **Cooperate with the states:** The final act stipulated that in setting rules the Commissioner was to invite the states to cooperate; whenever a state agreed to cooperate and adopted the plans and methods approved by the Commissioner, the Commissioner was authorized to expend money in that state to assist in the suppression of diseases.
- g. **Compensation to owners of diseased animals:** The bill introduced in the House in January 1884 provided for the compensation of the owners of diseased animals and stipulated that if the states cooperated with the federal program, the states and the federal governments would equally split all expenses of the eradication programs. **The Senate removed the Commissioner's authority to pay indemnities.**
- h. Promoting livestock exports was always a major goal of BAI advocates. The final bill stipulated that the Commissioner of Agriculture should make special investigations of diseases at the borders and "along the lines of transportation from all parts of the United States to ports from which live stock are exported, and make report of the results of such investigation to the Secretary of the Treasury, who shall...establish such regulations concerning the exportation and transportation of live stock as the results of said investigations may require."⁴¹
- i. **Regulations of railroads and shipping companies:** The final bill stipulated that no railroad company or the owners or masters of boats and vessels shall receive infected animals for interstate transport, nor should any companies or individuals deliver infected animals to any transportation company or to individuals for transportation, "*knowing* them to be affected with any contagious, infectious, or communicable disease." The law issued

⁴¹ This wording explicitly allowed the U.S. Commissioner of Agriculture to investigate *along* transportation lines not just at interstate borders. It also allowed the Secretary of the Treasury to issue regulations about such interstate transportation within states. The powers of the Treasury in these matters would soon be transferred to the Department of Agriculture.

similar prohibitions for other forms of movement such as driving animals by foot. (This is where the Texas fever exemption was appended.) Persons and corporations and companies found guilty in federal court of *knowingly* violating the provisions regulating the movement of infected animals were guilty of a misdemeanor punishable by a fine not more than \$5,000 and/or imprisonment for not more than one year [emphasis added].

- j. Collect information on livestock and contagious diseases and their causes and cures:**
This was a feature of many bills, including that passed into law.

The Political Economy of Interest Group Formation

GMW emphasize the push for the ICC was not a simple conflict between railroads and “an undifferentiated group of consumers.” Rather they argue the need to take a “multi-interest-group perspective” that takes into account “the diverse but concentrated groups with an important stake in railroad pricing practices,” to understand the complex mix of supporters and opponents to regulation. Moreover, GMW emphasize the tension in the bicameral system in blocking early bills and in generating the final bill. Railroad interests dominated in the Senate whereas an “anti-railroad coalition” comprised “of more diverse interests” held sway in the Reagan’s House.⁴² GMW argue that “when different interests dominate different houses, each interest, in effect, holds a veto over legislation.... If a compromise occurs, the interests represented at the compromise must expect to be made better off under the compromise than under the status quo.”⁴³

Citing Lee Benson, they note that “the railroads ‘had to affect adversely other powerful vested interests. Since those interests were unable to protect themselves according to the old ruled of the economic game, they proposed to rewrite the rules.’”⁴⁴ These diverse interests included merchants who depended on the railroads, interests in river towns, farmers in different locations, and an assortment of industrialists. The discussion clearly emphasizes distributional

⁴² Gilligan, Marshall, and Weingast, “Legislative Choice,” p. 48.

⁴³ Gilligan, Marshall, and Weingast, “Legislative Choice,” p. 41. The GMW findings are in line with Sam Peltzman’s earlier and more general conclusion that constituent interest plays the dominate role in explaining Senate votes in the 1979-80. Peltzman also shows that ideological measures are “more apparent than real” in that they likely are “proxies for something more fundamental,” such constituent income, educations, and the like. Sam Peltzman, “Constituency Interest and Congressional Voting,” *Journal of Law and Economics* 27:1 (April 1984), pp. 181-200.

⁴⁴ Gilligan, Marshall, and Weingast, “Legislative Choice,” p. 40; Lee Benson, *Merchants, Farmers, and Railroads: Railroad Regulation and New York Politics, 1850-1877* (Cambridge, Mass.: Harvard Univ. Press, 1955).

conflicts: in particular, the interests of shipping customers with only one rail option (and thus subject to monopoly pricing) versus the interests of customers with many options (and thus able to benefit from competitive pricing). Others, including Samuel DeCanio and Gerald Nash have tied the initial push for federal railroad regulation to the conflict with independent Pennsylvanian oil producers and Standard Oil in the mid-1870s. DeCanio tells a story of Reagan being in alliance with Thomas Scott of the Pennsylvania Railroad (which operated within Pennsylvania) to constrain the competing Erie Railroad (which crossed state lines) in turn for the construction of a railroad in Texas.⁴⁵

As with the ICA, differences between the House and Senate led to deadlocks as in August 1882, and the eventual BAI bill passed in May 1884 represented a compromise between sharply divided interests, with the House forced to accept the significantly weaker legislation favored by the Senate. In addition, multiple interests also supported and opposed the advance of national animal health legislation. However, the dividing lines were more fluid than with railroad legislation in part because new disease outbreaks and new scientific evidence on diseases could dramatically alter the perceived self-interest of many and thus the demand for regulation. As an example, the 1884 FMD scare in Kansas led many citizens and some legislators to change their opinions on the need for and the constitutionality of federal legislation. Republican Senator John Ingalls of Kansas had been a staunch opponent to the various BAI bills in the early 1880s. In 1881, Ingalls led the opposition to a proposed bill (S. No. 2097) condemning it as “the worst bill that I have ever read upon any subject.” He further asserted that every one of its provisions “is directly at variance with the Constitution....”⁴⁶ The bill was a clear violation of states’ rights. In March 1884 at the time of the FMD scare, Ingalls suddenly changed sides and strongly supported the BAI bill, noting that “the doctrine of State rights... is moribund and in the course of time will eventually be buried.” What had been a sacred principle for the Senator, had become a “defunct interpretation of the Constitution.”⁴⁷

Allowing for changes in the coalitions, several generalizations stand out. Railroads and river shipping interests firmly resisted the BAI bills. The Chicago meat packers and stockyard

⁴⁵ Samuel DeCanio, *Democracy and the Origins of the American Regulatory State* (New Haven, CN: Yale Univ. Press, 2015); Gerald D. Nash, “Origins of the Interstate Commerce Act of 1887,” *Pennsylvania History: A Journal of Mid-Atlantic Studies* 24:3 (July 1957), pp. 181-90.

⁴⁶ *Congressional Record*, 19 February 1881, p. 1831; pp. 1829-38.

⁴⁷ *Congressional Record*, 14 March 1884, pp. 1898-1901.

representatives led the organized opposition, organizing the Chicago Live Stock Exchange in February 1884 to coordinate efforts to “Kill the Bill.” The Chicago interests asserted that livestock contagions were a “myth” (especially in the West) and that the whole campaign for a federal agency was instigated by unscrupulous politicians bent on destroying Chicago’s lucrative export trade. They would carry on with their reckless denials even after CBPP jumped into the western states and in the face of overwhelming evidence of clear and present dangers to livestock and humans. The major livestock journals split: Harvey Goodall, publisher of the *Drovers Journal* lined up with the Chicago interests, while J. H. Saunders of the *Breeder’s Gazette* stood firmly with the 1884 bill’s supporters.

Livestock owners were also split with a tendency for divisions within the cattle industry between dairy interests and beef interests, and between improvers and non-improvers. Texas was America’s largest producer of cattle. But the Texas cattle interests were non-improving beef producers who feared that legislation or some future federal bureaucracy might restrict the flow of their low-quality longhorns to northern markets. Some longhorns were shipped live to Britain, but this was a minor market, so the Texans were not directly affected by the 1879 British restrictions on American cattle.

Many western producers were in a different situation. They depended on Texas cattle to stock their ranges. By 1884, with the extension of railroads, animals that previously would have been driven north were now shipped rapidly by rail. This change exposed cattle in the northern ranges to the ticks that carried Texas fever, because the ticks that would have dropped off during a long drive, now arrived in good shape. CBPP was also on the minds of western cattle interests who were importing quality eastern breeding stock to improve their herds. In early 1884, a new coalition of Midwestern and mountain state cattle raisers formed to support the BAI bill and to condemn the “short-sighted” positions of the Chicago interests and railroads. Thomas Sturgis of the Wyoming Stock Growers Association threatened to black list Chicago dealers on record opposing the bill. This western support and the blacklist threats weakened the Chicago interests united front.

Dairy producers were also split, but many threatened by CBPP supported stamping it out. CBPP affected dairy interests by reducing cow productivity and longevity. Dairy cattle, concentrated in small areas, were more likely to contract the disease; their longer lifespans (relative to beef cattle) added to their likelihood of infection. However, other dairy producers

objected to any government interference in their businesses, and after the BAI was established, well-organized Midwestern dairy interests would lead the fight against state and BAI disease control policies. Swine producers and their representatives were less vocal during the debates, but they had much to gain if the recently closed Continental markets could be reopened. Many swine producers also owned dairy cattle, further complicating divisions. A loose coalition of public health advocates and veterinary scientists also supported the legislation and would play an important role in lobbying for its passage.

Congressional Votes and Regional Divisions

GMW's empirical results dovetail nicely with their priors that self-interest dominated ideological preferences. Farmers subject to short haul discrimination, people living in areas with relatively little railroad capital, Democrats, and were more likely to vote for the tougher Reagan IC bill. Western farmers and citizens living in commercial centers with more transportation options, people in areas with relatively more railroad capital, and Republicans were more likely to vote for the Collum bill which was more favorable to the railroads.⁴⁸

Keith T. Poole and Howard Rosenthal critique GMW's analysis, arguing that political coalitions based on more deeply-seated ideologies, party loyalty and sectional location determined legislative voting.⁴⁹ Based on regressions that include their ideological scales, Poole and Rosenthal find that "constituency interest measures add little to our dimensional representation of roll call voting."⁵⁰ They argue that in the case of the ICC "Confederacy and Border congressmen overwhelmingly favored regulation of the railroads."⁵¹ The South was "the root of the proregulation coalition."⁵² In a similar vein, political scientist Elizabeth Sanders asserts that a political alliance of southern and western agriculturalists drove the movement for

⁴⁸ Gilligan, Marshall, and Weingast, "Legislative Choice," pp. 53-59.

⁴⁹ Keith T. Poole and Howard Rosenthal, "The Enduring Nineteenth-Century Battle for Economic Regulation: The Interstate Commerce Act Revisited," *Journal of Law and Economics* 36: 2 (Oct. 1993), pp. 837-60, esp. p. 837.

⁵⁰ Poole and Rosenthal, "Congress and Railroad Regulation," p. 83.

⁵¹ Poole and Rosenthal, "Interstate Commerce Act Revisited," p. 837.

⁵² Poole and Rosenthal, "Interstate Commerce Act Revisited," p. 837. Poole and Rosenthal, "Congress and Railroad Regulation," p. 89 assert that in the mid-1880s, "southerners represented the left wing in American politics..." On p. 101, Poole and Rosenthal add that up through 1882, votes on the Reagan bill "do not fit the spatial model well." They attribute the poor fit to learning by legislators "about how the issues related to long-term preferences" and to the on-going process of coalition formation. These processes were complete by the 48th Congress, which they viewed as the best testing ground for the competing hypothesis.

federal regulation in the late nineteenth century.⁵³ Historian James Moore also concluded that “In the decisive economic clashes of the Gilded Age” southern Democrats “consistently joined forces” with those in West.⁵⁴ Note the escalation in claims as these writers incorrectly assumed that the ICA geographical coalition also applied to regulation more broadly.

Examining the evolving coalitions supporting and opposing the passage of the BAI Act sheds new light on the Congressional behavior in the era of the passage of the ICA. Certainly, much that has been said about the ICA cannot be generalized to all regulation. Contrary to generalizations of Sanders, Moore, and others, during the BAI debate southerners generally spearheaded the anti-regulatory forces. They did so in the name of defending states’ rights.⁵⁵ There were few exceptions from the ex-Confederacy and none from Texas.

Ideology versus Interests

Many southern legislators were inconsistent on their position protecting states’ rights. Although Reagan was relatively consistent in his stance on regulation and states’ rights, even he had serious ideological lapses. The southern Democrats had both an ideological and a constituent interest in opposing the BAI. Thus, negative votes on the various BAI bills could be consistent with both the Poole and Rosenthal position (an emphasis on ideology) and the GMW hypothesis emphasizing self-interest. We can distinguish between these two theories by looking at the behavior of southern Democrats on closely related issues. This analysis shows many important instances in which southern Democrats abandoned their states’ rights and strict constructionist principles to advocate and vote for their constituents’ interests. The ideological contradictions were clearly understood by the participants in the BAI debates.

The favorable response of leading southern congressmen to the Supreme Court’s 1878 *Husen* decision represented an ongoing case of duplicity. *Husen* effectively invalidated the laws of many states, thereby all but guaranteeing inaction in the effort to control contagious animal

⁵³ Elizabeth Sanders, *Roots of Reform: Farmers, Workers, and American State, 1877-1917* (Chicago: Univ. of Chicago Press, 1999), pp. 101-47.

⁵⁴ James Tice Moore, "Redeemers Reconsidered: Change and Continuity in the Democratic South, 1870-1900," *Journal of Southern History* 44, no. 3 (Aug. 1978), p. 378, whole article is pp. 357-78. Carl V. Harris, "Right Fork or Left Fork? The Section-Party Alignments of the Southern Democrats in Congress," *Journal of Southern History* 42, no. 4 (Nov. 1976), pp. 471-506.

⁵⁵ Poole and Rosenthal emphasize the importance of coalition building within Congress as over many years in explaining the eventual passage of the ICA. Exogenous shocks such as court cases might change perceptions, coalition strength, and voting behavior. As were argue above, exogenous (and endogenous) changes appear to have been more important in the BAI debates than in the ICC debates.

diseases. The position of many, including Reagan, that the federal government had no power to regulate diseases within states, and that the states had the regulatory powers to protect themselves proved a sham, when they simultaneously applauded the *Husen* decision which denied the states the needed power. When supporters of the BAI bills challenged southerners on this issue, they were generally met with silence.

A Senate debate that took place in February 1881 bears on assessing ideological consistency. Senator John Johnson, a Virginia Democrat, championed a strong bill calling for the establishment of a BAI. Consistent with the intent of many bills to support U.S. exports, it stated that “The Secretary of the Treasury shall establish such regulations concerning the exportation and transportation of live stock as the results of such investigations may require.” This unleashed a storm of protest that this section bestowed unreasonable power on one official and represented an unconstitutional delegation of Congressional authority. But the unusual feature regarding this bill was a clause that read that “the provisions of this act shall not apply to cattle shipped from the Gulf States, or any of them, to the West India Islands.” Several senators protested that this violated the Constitutional stipulation that no regulation grant a preference to the ports of one state over those of another. Senator John Ingalls, a Kansas Republican who opposed the legislation, chided the bill’s sponsors for caving into the demands of legislators from regions where Texas fever prevailed. Texas Senators Richard Coke and Samuel Maxey, who over the next several years would raise a stream of constitutional objections to subsequent bills, found the constitutionally suspect exception for the Gulf ports perfectly acceptable.⁵⁶

Similar contradictions were evident in the differential treatment of federal intervention to protect human health. For several decades, Congress had struggled with little success to pass legislation to deal with yellow fever, cholera, and other contagious human diseases. Although there were many exceptions, rock-ribbed southern Democrats, whose districts were devastated by yellow fever epidemics, selectively abandoned their states’ rights mantra to campaign for federal intervention and funding. In 1879, Congress created the National Board of Health (NBH). Representative Vannoy Manning, a Democrat from Mississippi, was a leading supporter; and as a group, southern Democrats in the House voted 43 to 21 in favor of passage. On this issue, John Reagan remained true to his states’ rights rhetoric and opposed the bill. However, Reagan’s state had not been hard hit by the 1878 yellow fever epidemic that killed

⁵⁶ *Congressional Record*, 19 Feb. 1881, pp. 1830-32.

roughly 20,000 Americans and seriously disrupted commerce along the Mississippi River. In addition, soon after the Board was established, Reagan lobbied to obtain a federal quarantine station in the Galveston area. Iowa Republican William Hepburn—who would author the act bearing his name in 1906 that empowered the ICC to set maximum railroad rates—was one of many BAI supporters to point out the inconsistencies of southerners who had advocated the creation of the NBH in 1879 and then opposed parallel animal health initiatives. The debates regarding science and policy were similar, and the substance of the constitutional disputes was nearly identical. As Hepburn observed, if one was constitutional so was the other.⁵⁷

Hepburn noted similar contradictions relative to the ICA. On 6 February 1884, he expressed “wonderment” that Reagan could “find broad warrant in the Constitution... to lay his hand upon the entire transportation of this country... to secure his ideas of economy of transportation and cheapness of rates...;” but, when the question of livestock disease control comes up, he sees “the bugaboo of State rights looming up before him and can find himself shriven of all power to help the people.”⁵⁸

Yet another major flip-flop on states’ rights involving Reagan occurred in the controversy over creating a National Cattle Trail. In November 1884, the National Cattle and Horse Growers Association (a collection of BAI opponents) petitioned Congress to devote federal land to create a trail extending from the Red River in Oklahoma Territory to the Canadian border. The permanent six-mile wide trail, crossing through Kansas, Colorado, and Nebraska would effectively circumvent those states’ quarantine laws aimed to control Texas fever. The Kansas legislature objected. When Texas congressman James Miller introduced his National Trail bill in early 1885, a coalition of northern cattle interests and Texas railroads lobbied to kill the measure in committee. In the next Congress, Texans led by Reagan again introduced legislation to establish a national trail that would have cut a two-mile-wide swath through eastern Colorado.

⁵⁷ *Congressional Record*, 23 Feb. 1884, pp.1327-28, 1331-32; 25 Feb. 1884, pp. 1360, 1364; 26 Feb. 1884, p. 1401; 25 April 1884, p. 3395; 28 April 1884, pp. 3464-65; Edwin Maxey, “Federal Quarantine Laws,” *Political Science Quarterly* 23:4 (Dec. 1908), pp. 617-36, quote on p. 625; Peter W. Bruton, “The National Board of Health,” Ph.D. Dissertation, Univ. of Maryland, 1974, pp. 59-114; *Congressional Record*, 3 Mar. 1879, pp. 240-02; 22 May 1879, pp. 1507-20; 23 May 1879, pp. 1539-52; 27 May 1879, 1637-50; William H. Allen, “The Rise of the National Board of Health,” *Annals of the American Academy of Political and Social Science* 15 (Jan. 1900), pp. 51-68.

⁵⁸ *Congressional Record*, 6 Feb. 1884, p. 936. Reagan was not totally opposed to federal action related to animal diseases. In March 1884, he called for federal meat inspection, provided it was voluntary and financed by the packers. US House of Representatives, Committee of Commerce, “Importation of American Hog Products into Germany and France,” 25 March 1884, 48th Cong., 1st Sess., unpublished hearings; Bessie Louise Pierce, *History of Chicago*, Vol. III, *The Rise of the Modern City, 1871-1893* (Chicago: Alfred. A. Knopf, 1957), pp. 182-84.

The national livestock highway never won federal recognition, but its history suggests that Texas congressmen showed few qualms about trampling on the sovereignty of other states.⁵⁹

There is yet further evidence on the importance of self-interests: soon after the BAI went into action, a political dynamic began to take shape. Hardline BAI opponents from areas recently cleared of a disease typically switched sides and supported stronger and more invasive federal animal health legislation and enforcement. The politicians' constituents did not want their animals re-infected. This was even true in Texas. Farmers in the Panhandle, where cattle ticks could not survive the cold winters broke with the Texans to their south. As Texas fever was later eradicated from some southern areas, the representatives from those areas often flipped to support federal intervention. By the mid-1920s, a few Texans and others in still infected zones faced a nearly unanimous southern opposition on Congressional Texas fever votes. When at about the same time, FMD erupted in the Houston area in 1924, Texas Governor Pat Neff took a line from Kansas Senator John Ingalls' script of 1884 and departed from the traditional Texas position of hostility to the BAI. Neff pleaded for federal intervention, and within days he transferred total control of the state taskforce (including his police agencies) to the USDA. Emergencies and self-interest had a way of trumping states' rights even in the heart of Texas.

Impacts

Although there are many important differences between the ICA and BAI debates, coalitions, and intended purposes, perhaps the greatest differences were in the post creation evolution of the two agencies and in their respective impacts. GMW conclude that the ICA bill that passed did not provide railroads with a cartel manager, and the net effect on RR profits was small. The ICA transferred "wealth among customer classes, specifically, from longhaul to shorthaul shippers (p. 36)." In line with the GMW account, rates for short haul traffic fell by 15-30 percent, whereas those for long haul traffic rose after the ICA was enacted.⁶⁰ James Ely offers further perspective: "Despite this important step, the early years reveal an Act that made little difference. Congress itself waited nearly two decades to strengthen the powers granted to the

⁵⁹ *Washington Post*, 21 Nov. 1884, p. 1; *Chicago Tribune*, 4 Oct. 1884, p. 10; 15 Dec. 1884, p. 9; 20 Jan. 1885, p. 3; 18 Feb. 1885, p. 10; US BAI, *Report for 1885*, p. 297-98; *Congressional Record*, 19 Mar. 1886, pp. 2521-22; 28 April 1886, pp. 3935-36; US House of Representatives, *National Live-Stock Highway*, 23 Mar. 1886, Report No. 1228, 49th Cong., 1st sess. (Washington: GPO, 1886), p. 5.

⁶⁰ Gilligan, Marshall, and Weingast, "Legislative Choice," pp. 36, 53.

Interstate Commerce Commission....” Ely further argues that “the early years of the ICC present a tale of frustration. The sheer size and complexity of the rail industry presented daunting challenges to the fledgling agency with its small staff.” States retained jurisdiction over intrastate trade and could undermine the ICC. The ICC lacked power to compel compliance. When railroads ignored ICC orders, the Commissions had to go to the courts, which created long delays in part because the “federal courts refused to defer to the agency findings of fact.” “By the early twentieth century the ICC was largely toothless....”⁶¹ This view is in conformity with assessment of Ari and Olive Hoogenboom that “maintaining the status quo appears to be the ICC’s most persistent pattern,” and with conclusion of I. Leo Sharfman that “the powers ... conferred upon the Commission by the original legislation were found to be restricted in scope and feeble in effect.”⁶²

Whereas, the powers of the ICC were neutered by the courts, the powers of the BAI expanded rapidly in response to growing crises, scientific discoveries, and proven successes. As knowledge of how Texas fever (and other diseases) was transmitted and of the disease’s danger increased, the courts would change their tune on what was necessary for self-protection and become much more accepting of both state and federal regulations. This impact of scientific discovery on public policies and legal interpretations was not entirely, or even mainly, exogenous to the regulatory process because the BAI often generated the research with an eye on changing legislative and legal opinions. Thus, in the legislative and legal history of the BAI, there were scientifically-based dynamics that affected both Congress’s disposition to approve tougher regulations and the courts’ willingness to find more aggressive state and federal policies acceptable under the Constitution. We know of no dynamics based on scientific advances affecting the ICC’s status in relation to Congress and the courts.

The growing concern with CBPP had been a driving force behind the creation of the BAI; combating this disease would dominate new Bureau’s early agenda. This emphasis was largely dictated by events, because in the summer of 1884 CBPP was erupted in Ohio, Illinois, and Kentucky. By early 1885, it also appeared in Missouri and perhaps Tennessee. The nightmare

⁶¹ James W. Ely, Jr., “The troubled Beginning of the Interstate Commerce Act,” *Marquette Law Review* 95, Issue 4, pp. 1131-34. One expansion of powers occurred in 1893 when Congress made the ICC responsible for railroad safety. Ely (p. 1131) repeats the fable that the ICC was “the first important federal administrative agency...”

⁶² Ari and Olive Hoogenboom, *A History of the ICC: From Panacea to Palliative* (New York: W. W. Norton: 1976), p. 188; Sharfman, *Interstate Commerce Commission*, p. 23.

that the disease would take hold in the open range seemed likely. Once in the range, CBPP would become nearly impossible to stamp out given the technology of the era, and it appeared that the United States was on the verge of suffering the same fate as Argentina, Australia, large swaths of Africa, and much of Europe and become permanently infected. For the advocates of a strong BAI, the shortcomings of the 1884 act were becoming all too evident. In particular, the difficulties in gaining rapid state and local cooperation, and in some cases any state cooperation, and the limit of 20 employees caused serious problems.⁶³

The western problems were first discovered on 15 July 1884, when a BAI veterinarian diagnosed a CBPP outbreak in a herd of Jerseys near Sterling, Illinois (due west of Chicago, near Iowa). Now on high alert, the agency interdicted shipments from infected herds in Illinois to Tennessee, Nebraska, North Carolina, along with a large number of animals scheduled to pass through the Chicago stockyards.⁶⁴ If CBPP had contaminated the stockyards, it could have rapidly spread throughout the country without draconian actions which neither the state of Illinois nor the BAI had the power to implement at this juncture. Further investigations discovered CBPP in herds located across Illinois.

On 20 August 1884, the U.S. Commissioner of Agriculture, George B. Loring requested that the owners of Jersey cattle who had received new stock since the beginning of the year, cease all future shipments. He also reminded cattle owners and railroads that under the 1884 BAI law, knowingly shipping diseased animals across state lines was a federal crime. Finally, he requested the “cordial co-operation of State authorities and of all persons interested in the welfare of our cattle industries...”⁶⁵ Under the organic legislation of 1884, the federal government had to request state help and hope for the best. Even many state officials who wished to cooperate were hamstrung by state constitutional and legal constraints that prevented or delayed effective action. In several states, BAI officials faced outright antagonism. In the summer of 1884, the BAI tracked the disease in cattle shipped from Illinois to Kentucky near

⁶³ Ulysses Grant Houck, *The Bureau of Animal Industry of the United States Department of Agriculture: Its Establishment, Achievements and Current Activities* (Washington: the author, 1924), p. 125. In this early period, cumbersome legal checks and balances also made it difficult to contain the disease. On one Illinois farm, it required a full day to dispose of just 10 animals because the BAI agent had to find a justice of the peace and three disinterested appraisers to accompany him onto the farm. The appraisal documents then had to be taken to the town magistrate for his signature and returned to the farm, before the agent could begin his work. *Chicago Tribune*, 28 Aug. 1884, p. 3.

⁶⁴ Houck, *Bureau*, pp. 41-42; US BAI, *Report for 1884*, pp. 16-24 and 62-63.

⁶⁵ US BAI, *Report for 1884*, pp. 22-24.

Cynthiana. Kentucky had no emergency powers to condemn or even quarantine the diseased animals and the state's governor refused to act. Texas state authorities were also highly hostile when the BAI tried to stop a shipment of suspect cattle headed to the Longhorn state.

Many voices in the livestock industry called for stronger national legislation. In late 1884, several groups that had originally favored the BAI met in Chicago to form the "National Cattle Growers Association" to lobby Congress to grant additional powers, including stronger quarantine authority.⁶⁶ William Hatch offered a sense of reality, contending that "the present House will never pass a bill which authorizes a federal official to invade private properties and condemn private property" or which allows the federal government to act without the cooperation of the states.⁶⁷ Hatch's stance together with his gate-keeper role over the agricultural legislation coming before the House drew the ire of his more aggressive former allies.⁶⁸ The appropriations act of 30 June 1886 (for the FY 1886/87) granted the BAI the authority to purchase, condemn, and destroy *infected* animals. These were major additions to the BAI's arsenal, which had been proposed previously but stripped from early bills. The more aggressive former allies were not satisfied, seeking additional powers to quarantine infected states, to purchase and destroy *exposed or suspect* animals, and to realize the goal of eradicating CBPP.⁶⁹

The Crisis in Chicago and the Extension of BAI Powers

The appearance of disease in Chicago in the fall of 1886 heightened the alarm, and the city soon became the focal point of a growing schism between the advocates of states' rights and federal intervention. Given the proximity to the stockyards and large packinghouses, the outbreak discovered just a few miles from the city's center on 12 September 1886 instantly became national news. Within a week, state and BAI veterinarians traced the contagion to several distillery sheds located in the heart of the city. These distilleries housed thousands of cattle, mostly dairy cows which supplied milk for the urban market. Further investigations showed that the distillery herds were disease ridden. To make matters worse, the dairymen had

⁶⁶ Chicago *Tribune*, 14 Nov 1884, p. 6. The opponents of the BAI met in St. Louis to form a rival organization, "National Cattle and Horse Growers Association of America" to protect their interests. St. Louis *Globe-Democrat*, 22 Nov. 1884.

⁶⁷ *Breeder's Gazette*, 22 April 1886, p. 414.

⁶⁸ *Breeders' Gazette* 10 June 1886, p. 834; 17 June 1886, p. 866.

⁶⁹ *Breeder's Gazette*, 22 July 1886, p. 195.

been hiding the disease for months; cows which fell seriously ill were butchered and the meat sold. In addition, animals were regularly moved to other feeding areas, spreading the contagion.

The city's many special interests were soon at loggerheads. Consumers and local health officials wanted to ban the milk from the sick cows; milk-dealers fought this initiative. Dairymen wanted compensation if their cows were confiscated, but state funds could not cover the expense unless the meat could be salvaged from the carcasses. The giant packers correctly foresaw Chicago's reputation in distant markets would be severely damaged if any of the meat from condemned animals was sold. At the same time, many in the beef trade continued to vehemently deny CBPP existed in Chicago, or indeed anywhere in the United States.⁷⁰ City and state officials vacillated, making bold declarations one day, only to reverse themselves the next. City police refused to enforce lawful orders. The state legislature did little or nothing. Governor Richard Oglesby, who in the 1860s had advocated strong national action against animal diseases, showed little leadership and appeared more concerned with protecting his states' traditional rights than with working effectively with the BAI. The *Chicago Tribune* chided the Union Stock Yards interests, the members of the General Assembly, the State Live-Stock Commissioners, and especially Oglesby for "pitiful incompetence."⁷¹

As the fiasco grew more serious, the BAI's leaders remained the one steady force. They did not bend and bow to the evolving demands of the powerful special interests. Amid the cacophony of contradictory and uninformed claims, the public and officials in other states increasingly came to rely on the BAI for reliable information. The BAI wanted to use "heroic measures" to stamp out the disease, but BAI had limited authority to interfere in the state's internal affairs without a formal agreement with Illinois officials. Oglesby and the state General Assembly refused to authorize federal intervention. But as a few stock yard leaders belatedly became to recognize the danger, and as pressure mounted in other states to quarantine Illinois, the political tide began to shift.

In December 1886, President Cleveland called for stronger authority to remedy the pleuro-pneumonia problem so far as "the limits of a constitutional delegation of power to the General Government will permit." A new coalition emerged combining many of the BAI's

⁷⁰ *Chicago Inter Ocean*, 5 Oct. 1886, p. 5.

⁷¹ Illinois State Board of Live Stock Commissioners, *Report for 1887*, pp. 7-8, 98-117; US BAI, *Reports for 1887 and 1888*, pp. 15-19; *Chicago Tribune*, 28 Dec. 1886, p. 4; 25 Jan. 1887, p. 4; 27 Jan. 1887, p. 4; 4 May 1887, p. 4; 27 May 1887, p. 4; *New York Times*, 1 Jan. 1887, p. 1; 3 Jan. 1887, p. 2.

original advocates and a segment of its original opponents, including the leadership of the Chicago Live Stock Exchange. This coalition sought legislation to create a three-member Presidential cattle commission with a budget of \$1 million and emergency powers to rid the country of CBPP. The proposal, introduced by New York Senator Warner Miller, was deemed necessary because the original BAI “has proven a failure” due to its “state cooperation clause.”⁷² Hoping to allay the fears of Texans, they proposed replace the BAI with a temporary body headed by “practical” cattlemen. But the Texans did not bite.⁷³ An amended version of the Miller bill passed the Senate on 28 February 1887. (These events occurred during the same lame duck session when the final IC bill was debated and passed.) Over in the House, Hatch noted the bill “would evoke discussion which would last for days and weeks,” extending long after the close of the 49th Congress. As an alternative, the conference committee amended the 1887 Agricultural Appropriations bill to include \$500,000 for the USDA Commissioner to use as deemed necessary, to purchase disease and exposed animals, hire any number of staff, and enforce quarantines. Hatch told the House proponents of the Miller bill: “It is this or nothing.”⁷⁴

Armed with new powers and funding now over three times the 1884 budget, USDA Commissioner Norman Colman threatened a federal quarantine of the entire state if Oglesby did not cooperate with the BAI. In this light, the state legislature passed a law on 20 April 1887 authorizing the Illinois cattle commissioners to cooperate with U.S. officials to suppress contagious livestock diseases. This was over seven months after the crisis began! Oglesby immediately signed the bill, but he steadfastly refused to sign a cooperative agreement crafted by Colman that would have given the Commissioner the power to quarantine a part of the state (as opposed to the entire state), granted BAI agents the power to operate in Illinois, and specified procedures for compensating farmers and destroying stock. On 22 April, Oglesby quarantined a small area in Cook County. However, BAI Chief Salmon, who had long been at odds with Oglesby, deemed this move insufficient. Further exchanges forced Oglesby to capitulate in early May. On 24 May, Colman shut the cattle trade in Cook County and quarantined six counties in New York and four in Maryland.⁷⁵ This edict represented a milestone in the application of

⁷² *Breeder's Gazette*, 3 Feb. 1887, p. 160.

⁷³ *Breeder's Gazette*, 3 Feb. 1887, p. 160; 10 Feb. 1887, pp. 204-05.

⁷⁴ *Congressional Record*, 2 March 1887, pp. 2575, 2578; *Chicago Tribune*, 2 March 1887, p. 2.

⁷⁵ Colman's quarantine did not include cattle from outside Chicago moving through the Union Stock Yards. Many states and territories were not satisfied and thus passed their own laws blockading the importation of cattle from Illinois.

federal regulatory powers—at this point, the BAI was exercising police powers within states, not just at the borders. On 15 June 1887, the Illinois legislature passed a bill requiring their recalcitrant governor to accept the USDA’s rules and regulations and to authorize BAI agents to enter property to inspect, quarantine, and condemn animals. The bill granted BAI agents the “same powers and protection as peace officers” and set stiff penalties with fines and prison terms for violators of the federal-state rules. As a final act of defiance, Oglesby refused to sign; instead he allowed the law to take effect automatically on 28 June. With an agreement in place, BAI agents descended on livestock operations in Cook County to prevent the movement of cattle, test herds, kill suspicious animals, disinfect and destroy property.

Many advocates of strong livestock sanitary measures were not satisfied. In December 1887, Senator T. W. Palmer, a Michigan Republican, introduced S. 2083 in the 50th Congress to replace the BAI with an emergency commission empowered to eradicate CBPP without state cooperation. Testifying in January 1888, Dr. Azel Ames of Chicago urged the bill’s passage, arguing the BAI “has been in operation three years, and in the opinion of those most interested has proved inadequate for the emergency.” The outbreak had already cost between \$20-30 million and interrupted foreign and domestic trade.⁷⁶ As with the earlier Miller bill, the Texas Livestock Association strategically pressed to continue the BAI as it was.⁷⁷ Some noted the irony that the opponents of the original BAI had become its stoutest backers; tired of driving against myriad state-imposed quarantines, many Texans sought federal authority with a unified set of rules.⁷⁸ The BAI had become the lesser of two evils. In the floor debates in May 1888, Palmer asserted opposition to his bill came principally from the USDA officials. Texas Senators Coke and Reagan rose to oppose the change to a more forceful regulatory framework, charging the emergency commission would fall under the control of stockyard and packers’ interests.⁷⁹ Whereas, the Texas and Chicago interests had been allied against the BAI in lead up to the 1884 legislation, they were now at odds.

By December 1888, the BAI had extirpated CBPP from the Chicago area, and in April the USDA lifted its quarantine. With the territory west of the Allegheny Mountains again free of

⁷⁶ *Chicago Tribune*, 13 Jan. 1888, p. 2.

⁷⁷ *Washington Post*, 29 Feb. 1888, p. 6; *Chicago Tribune*, 14 Jan. 1887, p. 7.

⁷⁸ *Breeder’s Gazette*, 2 Feb. 1888, p. 103; 23 Feb. 1888, p. 182; 29 Feb. 1888, pp. 206-07; 25 April 1888, pp. 410, 412.

⁷⁹ *Washington Post*, 8 May 1888, p. 4; *Congressional Record*, 7 May 1888, pp. 3780, 3783.

the disease, the BAI intensified its efforts in the East. In fiscal year 1889-90, the Bureau inspected more than 283,000 cattle, reexamined some 200,000, and conducted 50,000 post-mortem examinations. In all, fewer than 1,000 diseased animals were discovered. Illinois was one of 34 states and territories whose governors signed cooperative agreements in 1887, accepting uniform rules and regulations that gave BAI agents almost unlimited power to deal with animal diseases within state borders. The Governors' acceptances were increasingly dictated by the threat of costly quarantines imposed by other states and by the pressure imposed by the federal government. Failure to abide by the agreement once signed could trigger the intervention of federal marshals.⁸⁰ Here was the beginning of a new form of "coercive federalism"—an arrangement whereby the federal government sets minimum standards that the states must meet. This regime is usually dated to the 1960s with legislation such as the Water Control Act of 1965, but not to the mid-1880s.

The last infected animal was discovered in New Jersey in March 1892. On 26 September 1892, Secretary of Agriculture J. M. Rusk, officially declared the United States free of CBPP. In about five years and with a cost to the federal government of \$1,509,100.72, the BAI working in partnership with the infected states had achieved a spectacular success. This represented the first time that a major entrenched infectious livestock disease had been eradicated on a continental scale by a systematic campaign. The BAI had created a global public good and a legacy that would pay unanticipated dividends. Indeed, researchers working to eradicate smallpox a century later credited the BAI's CBPP campaign with creating "the precedent and mechanisms" for "area-wide eradication programs...."⁸¹ If the CBPP had been ignored as the leading Chicago packers and dealers had long advocated, it likely would have caused enormous losses as it did in other countries. The American success was noted by British leaders, who had begun their own anti-CBPP campaign, based on the BAI's model. Eliminating the disease contributed to an expansion of the live cattle trade to Europe but did not yield the big political payoff hoped for—a lifting of the British restrictions.

The BAI's success ended the attempts by Palmer, Miller, and other advocates of stronger policies to push it aside and create new agency. More than ensuring the Bureau's future, the

⁸⁰ US BAI, *Report for 1885*, p. 39; US BAI, *Reports for 1887 and 1888*, pp. 10-16, Houck, *Bureau*, p. 44.

⁸¹ Frank Fenner, Donald A. Henderson, Isao Arita, Zdeněk Ježek, and Ivan D. Ladnyi, *Small Pox and Its Eradication* (Geneva: World Health Organization, 1988), p. 372.

CBPP campaign helped forge the organizational guidelines for state-federal cooperation, pressured the states to strengthen their legal and administrative structures, and gave leaders in the veterinary community the confidence to undertake even greater challenges. In addition, the powers and size of the Bureau expanded rapidly as more members of Congress saw the need for heroic animal disease measures directed by a larger federal agency. The BAI's influence continued to grow under both Republican and Democratic Presidents. The 1884 organic legislation limited the agency to 20 employees (plus four enumerated staff). The *Annual Report* for 1888 listed 279 employees; this force was augmented by a large number individuals employed by the various states and put under the BAI's command. The growth continued: in 1900 the BAI would transfer many of its 1,000 special sheep inspectors to its western quarantine zone to combat sheep scab. Events fulfilled the 1882 prophesy of BAI opponent, Senator Charles Van Wyck, a Republican from Nebraska, noted that the Bureau "would live...long after the pleuro-pneumonia had been stamped out."⁸²

There is no doubting the BAI's success, but at the same time many of the worst nightmares expressed during the debates by the BAI's opponents had become a reality: the federal government was exerting police powers within states in a way that would have been unimaginable to strict constructionists a few years earlier. The power to work within states had been proposed many times during the debates to found the BAI but had been stricken from the final bill that passed. More than this, the President who signed the legislation granting the increased powers within just a few years after the BAI's founding, and who unleashed his commissioner of agriculture to enter states was Grover Cleveland, who has become a poster child for some conservative scholars for upholding constitutional limitations largely because of his veto of the relatively minor Texas Seed Act of 1887.⁸³ The origins of the "Administrative State" need rethinking. By endorsing Commissioner Colman's policies, Cleveland vastly expanded the administrative bureaucracy—his USDA could set rules and regulations

⁸² *New York Times*, 4 Aug. 1882, p. 1; US BAI, *Reports for 1887 and 1888*, pp. 22-79.

⁸³ Robert Higgs, *Crisis and Leviathan: Critical Episodes in the Growth of American Government* (New York: Oxford Univ. Press, 1987), pp. 82-83. In the broader literature, the regulation of oleomargarine and Cleveland's veto of a relatively minor seed bill have received far more attention than the activities of the BAI. Peter Zavodnyic, *The Rise of the Federal Colossus: The Growth of Federal Power from Lincoln to F.D.R.* (Santa Barbara, CA: Praeger, 2011), pp. 145- 46 and 161-63. The Bill of Right Institute offers a view of the importance it gives to the seed act, again apparently unaware of the larger changes that Cleveland approved. <http://www.billofrightsinstitute.org/educate/educator-resources/lessons-plans/presidents-constitution/texas-seed-bill/>. Far more substantive than the Texas Seed Act veto was Cleveland's veto of the income tax.

independent of day-to-day congressional oversight, it could design intrusive area and national eradication programs, it could respond rapidly to new situations. This administrative bureaucracy was directed by scientists. For the most part, the bureaucratic activities of the ICC could be performed by clerks; the activities of the BAI typically required highly trained personnel. The BAI was at the tip of the new bureaucratic spear. Given the magnitude of the precedents established in the first Cleveland administration, we should look more closely at the initial state-federal cooperative agreements that gave the BAI state police powers. This examination shows why governors, protective of their constitutional prerogatives, agreed to let federal agents operate in their states.

Recall in April 1887 the Agricultural Appropriations act increased the BAI's funding, staffing, and interstate quarantine powers. Colman deduced that to control the interstate movement of infectious diseases his BAI agents had to fight disease *within* states. To do this, Colman immediately issued a new set of rules and regulations which went into effect on 15 April 1887. These applied to "all contagious, infectious, and communicable diseases of domestic animals," that the BAI chief believed might spread across state lines. These rules vastly magnified the BAI's powers by granting its chief (and BAI inspectors) the authority, as "deemed necessary," to establish temporary quarantines, slaughter animals, disinfect property, regulate railroads, and impose other sanitary measures to prevent the spread of the disease. The Commissioner, upon receiving confirmation of a disease's existence, could quarantine that *locality*—that is, under the new order the BAI could work within a state's borders to contain the interstate spread of a disease. Violators of the Commissioner's policies could be prosecuted in federal courts. Relevant to our comparison with the ICC, Colman issued these rules two days before the ICC even heard its first case on 17 April 1887.

Colman undoubtedly understood that BAI officials had no constitutional authority to exercise police powers within states. To obtain the needed state cooperation, Rule 12 of the new protocols stated that should the chief find it impossible to enforce the rules and regulations in any state, the Commissioner could quarantine the entire state, shutting down the "exportation of animals of the kind diseased..."⁸⁴ The message was clear: cooperate or else.

On 15 April 1887, Colman sent a letter to all governors asking them to accept his revised rules and regulations. He provided a form letter for the governors to sign and return. By signing

⁸⁴ US BAI, *Reports for 1887 and 1888*, pp. 9-13.

a governor agreed to cooperate to the full extent of his authority with the BAI in the suppression of the named disease. The governor agreed to “direct the sheriffs and other peace officers of the State to render all necessary aid and assistance to the inspectors of the Bureau of Animal Industry in the performance of the duties imposed upon them by said rules and regulations.” In signing, a governor agreed that if the chief of the BAI determined that the state was not fully cooperating, federal marshals could enter the state to enforce BAI edicts. The governors of 34 states and territories signed and returned the form letter giving the Commissioner of Agriculture a free rein to declare and enforce quarantines within their jurisdictions. Many governors no doubt desired more effective state-federal cooperation. But even those such as Oglesby, who were desirous to maintain their constitutional prerogatives, were likely swayed by the specter that other states and the federal government would quarantine their entire territory. To facilitate state-federal cooperation, the BAI supplied governors with templates for state legislation. Five states, all infected with CBPP, immediately adopted the suggested wording and many others negotiated compromises approved by the USDA.

The Courts and Regulatory Powers

There was a vast difference in how the courts treated the ICC and the BAI. The legal history of the ICC is well known, so we only offer a brief synopsis. The Courts were very hostile to the ICC. In the words of U.S. Supreme Court Associate Justice John M. Harlan, by 1897, the ICC was rendered “a useless body for all practical purposes... shorn, by judicial interpretation, of authority to do anything of an effective character.”⁸⁵ In the late 1880s and through the 1890s, the U.S. Supreme Court sharply curtailed the ICC’s powers. It did so first by undermining its fact-finding/decision-making capability and then by denying its rate-making powers. In *Counselman v. Hitchcock*, 142 U.S. 547 (1892), the Court held that witnesses before the ICC possessed absolute immunity from self-incrimination, thus inhibiting the collection of testimony. Congress responded with a statute granting the Commission the power to compel testimony. In *Brown v. Walker*, 161 U.S. 591 (1896), the Supreme Court upheld this law.

But the Courts continued to undercut the ICC’s regulatory powers. In *Cincinnati, New Orleans and Texas Pacific Railway v. ICC*, 162 U.S. 184, (1896), the Court ruled the ICC lacked the power to set new rates while ruling on whether existing rates were reasonable. In *ICC v.*

⁸⁵ The quote in the text is from Harlan’s dissent in the *ICC vs. Atlantic Midland Decision* 168 U.S. 176, (1897).

Cincinnati, New Orleans and Texas Pacific Railway, 167 U.S. 479, (1897) the Court went a step further, completely nullified the ICC's power to set railroad rates because the Congress did not expressly grant this authority. In *ICC vs. Atlantic Midland Decision*, 168 U.S. 144, (1897), the Court overturned the ICC's authority over long-haul/short-haul rates. In *United States v. Trans-Missouri Freight Association*, 166 U.S. 290 (1897) and *United States v. Joint Freight Association*, 171 U.S. 505 (1898), the Court ruled against private rate-setting agreements, as violation of the 1890 Sherman Ant-Trust Act. (The Trans-Missouri Freight Association was formed in 1889, before the passage of the Sherman Act and its rates were approved by the ICC.⁸⁶) In *Smyth v. Ames*, 171 U.S. 361 (1898), the Court ruled against Nebraska legislation, holding that regulation had to allow the railroads a "fair return." The cumulative effect was to render the ICC a powerless body in the late 1890s and early 1900s.⁸⁷

The legal history of the BAI stands in stark contrast that of the ICC. The *Husen* decision continued to haunt the U.S. Supreme Court's attempts to define state powers to regulate interstate trade. The states had long asserted that controlling diseased animals was part of their police powers. In *Yeazel v. Alexander*, 58 Ill. 254 (1871) and *Chicago and Alton R. R. Co. v. Gasaway*, 71 Ill 570, (1874), the Illinois Supreme Court upheld a state laws regulating the importation of Texas cattle that were similar to the Missouri measure. Following the *Husen* decision, the Illinois Supreme Court reluctantly ruled unconstitutional an 1874 state law prohibiting the importation of Texas and Cherokee cattle.⁸⁸

One way out was to deny that diseased cattle were legitimate items of interstate commerce.⁸⁹ In *Bowman v. Chicago and Northwestern Railway Co*, 125 US 465, 492 (1888), the Supreme Court's majority opinion read: "Doubtless the states have power to provide by law suitable measures to prevent the introduction into the states of articles of trade which, on account

⁸⁶ Michael Landry and Richard D. Stone, "The Trans-Missouri Case: Does the Sherman Act Apply to the Railroads?" *Essays in Economic and Business History*, 2003, pp. 127-39.

⁸⁷ Hoogenbloom, *History of the ICC*, pp. 35-39. During the administrations of Theodore Roosevelt and William Taft, Congress passed a second round of legislation increasing the Commission's authority. The 1903 Elkins Act prohibited (soliciting) rebates; the 1906 Hepburn Act gave the ICC the power to set maximum rates; and the 1910 Mann-Elkins Act granted it authority over long-haul/short-haul discrimination.

⁸⁸ *Chicago and Alton R.R. Co. v. Erickson*, 91 Ill 613, (1879); "An Act Prohibiting Importation of Texas Cattle" *Railway World*, 30 August 1879, p. 832.

⁸⁹ Blewett Harrison Lee, "Limitations Imposed by the Federal Constitution on the Right of the States to Enact Quarantine Laws. II," *Harvard Law Review*, II: 7 (15 Feb. 1889) entire article is pp. 293-315 noted the ingenious argument that a diseased animal (or decayed meat) was not "merchantable" or a "legitimate subject of trade and commerce;" thus prohibiting its importation did not constitute a restriction on trade (p. 308).

of their existing condition, would bring in and spread disease, pestilence, and death, such as... cattle or meat or other provisions that are diseased or decayed.... They are not legitimate subjects of trade and commerce.” (p. 489). In their dissenting opinion (p. 513), Justices Waite, Harlan, and Gray seemingly concurred, asserting “It was only because the Missouri statutes embraced cattle that were free from the disease that it was declared unconstitutional.” The key problem was to distinguish between healthy and unhealthy livestock. Here BAI’s science played an important role. Shortly after the Bureau’s formation, its soon-to-be chief Daniel Salmon completed mapping the region where Texas fever was enzootic.

P. C. Kimmish v. John J. Ball, 129 U.S. 217 (1889) represented a key shift. In the Court’s opinion, Stephen J. Field upheld the constitutionality of the Iowa statute that established liability for damages caused by “Texas cattle” running at large. Cattle from Texas and surrounding “malarial” areas could be presumed to carry the disease. Citing the *BAI Annual Reports* for 1884 and 1885, Field asserted “That cattle coming from those sections of the country during the spring and summer months are often infected with a contagious and dangerous fever is a notorious fact.” “Scientists are not agreed as to the causes of the malady, and it is not important to our decision which of the many theories advanced by them is correct.” Thus, BAI’s science gave the Court cover for a shift in its presumption that cattle from Texas were safe (unless proven dangerous) to the presumption that they were dangerous. This created a means to escape the mess that the Court made with the *Husen* decision and to restore state police powers selectively.⁹⁰

On 3 July 1889, five months after the *Kimmish v. Ball* ruling, Secretary of Agriculture, James Rusk, declared Texas fever “a contagious and infectious disease.” Based on research conducted by BAI scientists and experiments at the Union Stock Yards, the Secretary observed that northern cattle typically contracted this disease from direct contact with southern cattle or “from the stock-yards or from cars in which cattle from the infected district have been yarded or transported.” Rusk concluded the malady would be “easily prevented by providing separate pens for the susceptible and dangerous cattle, and by promptly cleaning the infected cars....” Rusk ordered railroad and transportation companies to establish separate channels of distribution for

⁹⁰ BAI research was cited in other cases to defend quarantines. In *Rasmussen v. Idaho*, the Court upheld an Idaho court ruling allowing a quarantine to stop sheep possibly infected with scab from entering Idaho from parts of Nevada and Utah. The lower court extensively cited BAI research on the sheep scab.

cattle from the areas south of the Texas-fever line and *west of the Mississippi river* during the dangerous period of the year. The Secretary argued “rigid compliance” with his new regulations “will insure comparable safety to northern cattle and render it unnecessary to adopt a more stringent regulation, such as the absolute prohibition of the movement of Texas cattle except for slaughter during the time of year that his disease is fatal.” Any complaint by Texans that this differed from the letter of the 1884 law likely fell on deaf ears because at this time Republicans controlled all branches of the federal government (See Table 1). USDA officials were pleased with the early impact of the 1889 regulations and built on them in the following years.⁹¹

There were some legal setbacks for the BAI, such as in *Reid v. Colorado*, 187 U.S. 137 (1902), dealing with the movement of cattle from areas infected with Texas fever. The Supreme Court determined that the organic legislation only made it a crime to *knowingly* ship infected livestock across state lines. This put the BAI’s policy of quarantining areas to prevent the interstate transport of *potentially* infected stock on loose footing. Congress responded to this and other court decisions by expanding the BAI’s powers in 1903 and again in 1905. Congress also eased the burden of proof required to obtain convictions. After 3 March 1905, it was no longer necessary to establish that the shipper know the animals were infected to establish guilt; now the government only had to show that the shipper transported animals across a posted quarantine line.

As a rule, the courts continued to treat the regulatory activities of the BAI more favorably than those of the ICC. The growing understanding of diseases, the sense of urgency to prevent some diseases from spreading, and the difficulty in compensating the losers should a disease erupt may have played a role in the different treatment. The Supreme Court seldom challenged the BAI’s actions, and never that we know of during emergencies such as FMD outbreaks.

Conclusion

The BAI would build on its success with CBPP. By the 1940s, in one spectacular campaign after another, the BAI pushed Texas fever from the southern states and California, controlled sheep and cattle scab which had contaminated roughly one-half of the country, eradicated bovine tuberculosis from every state in the Union, eradicated fowl plague, glanders, and dourine fever, and on several occasions stamped out foot and mouth disease. It took major

⁹¹ BAI *Annual Reports* for 1889 and 1890, pp. 13-14, 69; *Breeder’s Gazette*, 21 August 1889, p. 107.

steps in controlling many other diseases such as rabies, anthrax, and blackleg. In the post-World War Two period, the BAI's successor agencies would eradicate hog cholera, which at the time was the major killer of swine.

In addition, the BAI would also design and supervise the nation's federal meat inspection system beginning in 1891. These and subsequent actions prevented countless grave illnesses and deaths.⁹² It would operate quarantine stations that all livestock imported in to the United States passed through, and at times significantly restricted trade among the states to control diseases. It would take the lead in helping standardize a morass of conflicting state regulations by giving the states legislative templates and developing partnerships with state bureaucracies. These actions significantly facilitated interstate trade and sped disease detection and control. More than this, the Bureau created the country's first significant biological laboratory, which was responsible to a stream of path-breaking findings that significantly affected animal and human health. This laboratory bore directly on regulation, because by clarifying the etiology of various diseases and by developing tests and in some cases vaccines, research advances played a major role in convincing a succession of congresses and Democratic and Republican administrations to authorize even more ambitious and more coercive interventions. The BAI did not just respond to congressional directives, it played a major role in influencing the course of regulatory policy and advanced the process of state building.

All of the early BAI eradication campaigns required heavy-handed boots-on-the-ground regulation, unlike anything attempted by the ICC. The BAI carried on in the face of riots, threats to its agents, and in some cases beatings and the murder of its agents. In the Texas fever campaign, the BAI in partnership with the states built rural compounds defended by machine guns to protect cattle testers. In contrast, the ICC navigated in calmer waters. In almost every case, the BAI's campaigns were firsts, establishing novel procedures and protocols, and in some cases even new scientific foundations, that would be copied around the world. The BAI became the undisputed world leader in developing animal disease control programs. At the start of most

⁹² The economic history literature built upon Libecap's work has argued that to protect their market reputations the large Chicago meat packers took adequate safety measures and that meat safety laws were unnecessary, inefficient, and largely redistributive by design and effect. The market worked to protect consumer health. Gary D. Libecap, "The Rise of the Chicago Packers and the Origins of Meat Inspection and Antitrust." *Economic Inquiry* 30, no. 2 (April 1992), pp. 242-62. In fact, the packers were grossly negligent, there were serious health concerns, and regulation was both needed and effective. See, Olmstead and Rhode, *Arresting Contagion*, chs. 8 and 9.

campaigns, skeptics including many knowledgeable BAI supporters thought that the Bureau was commencing on an impossible undertaking. The scheme was too ambitious, it had never been tried, the hostility seemed too great. One of the gifts the BAI gave to the world was to show what could be done, and more, how it could be done. Science was an important influence on action, but other advanced nations had access to the same scientific tools as the BAI's leaders. What distinguished the United States from other nations was the creativity and organizational leadership provided by the BAI.

The scale and complexity of the BAI operations required a highly efficient administrative apparatus capable of innovating rapidly in the face of new challenges. On 3 July 1891, Secretary of Agriculture Jeremiah Rusk proclaimed that Texas fever was “a contagious and infectious disease,” despite the Texas fever exemption in the 1884 law establishing the BAI. This was one of many instances in which the USDA independently expanded Congress' regulatory guidelines. Rusk issued the first of many quarantine orders that mandated that railroads bear much of the enforcement cost. By 5 February 1891, Rusk had established a nearly 2,000-mile federal quarantine line and had issued numerous specific orders specifying the counties quarantined and detailing handling methods and procedures. The BAI often sent railroad companies updated special orders modifying quarantines several times a year as conditions changed. This was a major and intrusive regulatory undertaking. In 1893, BAI inspectors examined 64,184 carloads of southern cattle, containing 1,737,380 bovines. These animals were placed in special pens, and the railcars and waybills examined, approved, marked “Southern cattle.” The BAI supervised the disinfections of 56,406 cars in 1893. This type of regulatory activity to control the damage caused by Texas fever went on for decades.⁹³

In 1906 the BAI significantly increased its regulatory initiative when it launched a national campaign to eradicate the ticks that transmitted the disease. Armed with new scientific findings of its own creation, the Bureau eventually negotiated new state-federal agreements with southern states (and California) to systematically dip every bovine and many equines multiple times, to shut down the movement of animals within and between states, and in some cases to exterminate wild hosts such as deer. Once an area entered the program the compulsory policies

⁹³ Olmstead and Rhode, *Arresting Contagion*, pp. 101-05; US BAI, *Reports for 1893 and 1894*, p. 17. The BAI's job was made more difficult by railroad attempt to circumvent inspection and deceive inspectors. See for example, Albert Dean, Inspector, to J. M. Rusk, 12 Dec. 1890, US BAI, *Report 1889 and 1890*, pp. 399-400.

applied to all farmers, igniting raw class and sectional conflicts. Despite widespread violence, the BAI working with the states progressively pushed the area of permanent tick infestation southward, clearing a vast territory in which modern, high grade, cattle and dairy operations could thrive.⁹⁴

In the case of bovine TB eradication, BAI accredited veterinarians administered roughly 232 million tuberculin tests and ordered the destruction of nearly 4 million cattle between 1919 and 1940. The veterinarians entered private property with or without the farmers' permission. This often created volatile situations, which eventually led to an unprecedented peacetime deployment of police power. As with many BAI programs, success required educational campaigns, countless town hall meetings and one-on-one discussions, local referenda, and above all building trust and social capital with farmers. In contrast, the ICC never faced these kinds of challenges.

A look at other countries offers a sense of the BAI's bovine TB achievement. Canada followed closely on the U.S. example, but most of Western Europe did not take serious steps to eradicate bovine TB until after World War Two. The organizational challenges and distributional conflicts among special interests were just too daunting. The delays in Europe resulted in hundreds of thousands of preventable human deaths. Most of these nations only bit the bullet because of American prodding (including the direct intervention of U.S. Army veterinarians) and financial assistance following the War. When they did undertake eradication, the methods down to the very terminology used were patterned on the U.S. experience. Other advanced nations, such as Australia and New Zealand, delayed acting until after the War, and they also fashioned their campaigns on the BAI model.

We can assess the benefits relative to the costs of many of these campaigns—in every instance, a cautious lower-bound accounting suggests that the benefits were at least ten times the costs. In the case of bovine tuberculosis eradication, the BAI's campaign, along with a parallel milk pasteurization drive, prevented hundreds of thousands of human tuberculosis deaths by 1940. It is important to note that federal and state institutional and legal changes to promote human health significantly lagged behind the efforts to promote animal health, and early advocates of federal public health programs pointed to the BAI as establishing a model to emulate. Overall, the forgotten story of the BAI is dramatically different from, and we think far

⁹⁴ Olmstead and Rhode, *Arresting Contagion*, pp. 251-77.

more important than, that of the ICC. The BAI story represents an example of diverse and conflicted parties taking advantage of a new and contested science to come together to overcome the free-rider problem and create enormous private and social benefits. It is a story of combating the denialism of strong vested commercial and geographical interests. It is a story of uncommon political and scientific leadership. These experiences relate to a class of problems that continue to confront societies in an ever-changing world. The history of the BAI offers a lesson of how enlightened changes that required collective action and significant political innovation can occur within a relatively ridged and conservative political structure. This knowledge should be helpful in dealing with today's problems.

Table 1: Composition of Congress, 1879-91

Years	Congress	House			Senate			President
		Rep	Dem	Oth	Rep	Dem	Oth	
1879-81	46 th	130	149	14	33	42	1	Rep
1881-83	47 th	147	135	11	37	37	2	Rep
1883-85	48 th	118	197	10	38	36	2	Rep
1885-87	49 th	140	183	2	43	34	0	Dem
1887-89	50 th	152	169	4	39	37	0	Dem
1889-91	51 th	166	159	0	39	37	0	Rep

Majority party in **bold**.

Source: Susan Carter et al. *Historical Statistics of the United States, Millennial Edition*, Vol. 5, Eb296-308 (New York: Cambridge Univ. Press, 2006).