

Progressive Era Origins of the Regulatory State and the Economist as Expert

Thomas C. Leonard

1. Economics Ascending

American economics established its scientific and political authority during the turbulent economic times of the long Progressive Era, 1885 to 1918. The rise of American economics is a tale with three acts. In the first act, a small band of progressive economists, many of them Protestant evangelicals on a self-appointed mission to redeem America, transformed the nature and practice of their own enterprise. From 1880 to 1900, both fostering and benefiting from a transformation of American higher education, the progressive economists established economics as a university discipline, transforming American political economy from a species of amateur, public-intellectual discourse into a professional, expert, scientific discipline—economics.

In the second act, the upstart economists, writing with the scientific authority of their new professorial chairs, helped convince Americans and their political leaders that *laissez-faire* was doubly wrong, both economically outmoded and ethically stunted. Industrial capitalism, progressive economists said, created profound social conflicts, operated wastefully, and distributed its copious fruits unjustly. Moreover, the new economy

Correspondence may be addressed to Thomas C. Leonard, Department of Economics, 418 Robertson Hall, Princeton University, Princeton, NJ 08544; e-mail: tleonard@princeton.edu. This article is derived in part from a book forthcoming from Princeton University Press, *Illiberal Reformers: Race, Eugenics, and American Economics in the Progressive Era*.

History of Political Economy 47 (annual suppl.) DOI 10.1215/00182702-3130439
Copyright 2015 by Duke University Press

featured novel organizational forms—trusts, natural monopolies, industrial corporations, and industrial labor unions—and a rapidly increasing economic interdependence wrought by the furious pace of economic growth. Free markets, to the extent they ever could, could no longer self-regulate. Progress, the economists argued, now required the visible hand of a powerful regulatory state, guided by expert social scientists—a model of economic governance progressives called *social control*.

In the third act, the economists joined their progressive allies in a crusade to reform and remake American government. If a regulatory state was to be the new guarantor of economic progress, it would need to be built. By March 1917, the end of Woodrow Wilson's first term, it was. Many additions remained to be made, but the "fourth branch" of government was established.¹

The establishment of the fourth branch not only marked an epoch-making change in the relationship of government to American economic life. It also signaled a shift in political authority *within* the state, moving power from the courts and parties to the new regulatory agencies of the executive, and from politicians and partisans to bureaucratic experts, who represented themselves as objective scientists above the political fray, administering progress for the good of all.

Progressive economists, who were the architects and framers of the fourth branch, defined economic progress variously, emphasizing the goals of justice, efficiency, national unity, and conflict reduction in different measures. But nearly all agreed that the best *means* to their several ends was social control—investigation and regulation by independent government agencies supervised by a vanguard of scientific experts dedicating themselves to the public good. The task of the fourth-branch bureaus was administration, not politics.

Social control, then, was less a set of well-defined goals than a method—a bureaucratic approach to economic governance institutionalized in administrative government. As Robert Wiebe (1967, 166) famously put it, "The heart of progressivism was the ambition of the new middle class to fulfill its destiny through bureaucratic means."

1. I use *fourth branch* to describe the independent government agencies, staffed and advised by experts, which, though nominally inside the executive branch, were chartered specifically to be free of political influence, employing a permanent civil service rather than political appointees. The term, though certainly not the concept, is somewhat anachronistic applied to the Progressive Era.

2. Economics in the Nation's Service as Well as Its Own

The Progressive Era founders of American economics neither wrote nor pretended to write only for the applause of their peers. They intended to influence affairs, which required a market for the economic expertise they were retailing. In the broadest sense, two clients were available circa 1890, business and government.²

Corporations did not begin hiring social scientific experts until roughly the beginning of the First World War. Prospects in government were better, but only marginally. The federal government's single social welfare program, the Pension Office, which paid pensions to Civil War veterans and their survivors, was seen not as a model for the regulatory state but as a cautionary tale. A sprawling bureaucratic colossus, the Pension Office had nearly one million beneficiaries by 1900, supported a vast rent-seeking industry of attorneys and examining physicians, and was widely regarded as politically corrupt, inefficient, and unfair.³

The Interstate Commerce Commission (1887), formed to regulate the railroad industry, and the US Bureau of Labor Statistics (1885) had only just opened. The great Progressive Era creation of the fourth branch, with its multiplication of investigatory and regulatory agencies, and with its adversarial approach to business, was visible on the horizon, but only barely.⁴

If barely visible, the fledgling economists saw the vocational opportunity and cast their lot with the regulatory state, which was to be the great benefactor of American economics. Francis Amasa Walker's 1888 presidential address to the American Economic Association (AEA) presciently understood that an alliance with the regulatory state would allow the nascent profession to be in the nation's service as well as its own (Walker 1889).

Walker's premises were epistemic and vocational. He believed, first, that the new economics could tell government something that it did not already know, that is, the new economics could successfully guide government in deciding which investigations and interventions were merited.

2. Opportunities for economists in other organizational settings, such as charities, labor unions, or foundations, were still many years away.

3. See Skocpol 1992.

4. On the Progressive Era rise of a newly adversarial relationship between government and business, see McCraw 1984a.

Of what use was economic expertise to government otherwise? Walker believed, second, that economic expertise in the service of the regulatory state would advance the professional fortunes of the discipline.

There were two implications of consequence. The first Walker left implied: economists had to establish that their advice was objective, not partisan—*disinterested* was the term. Working for the national interest meant avoiding too close an association with any special interest, even one as important to progressive economics as labor. The second implication Walker made clear: American economics would have to shed any remaining crust of laissez-faire dogma. Laissez-faire, of the sort that had characterized midcentury American political economy into the 1870s, was a nonstarter as a professionalizing strategy. How much scientific expertise, Louis Menand (2001, 302) asks, was required “to repeat, in every situation, ‘let the Market decide’”?

Having served in government in many roles, including two tours as superintendent of the US Census, Walker understood that, when economists possessed the political and scientific authority to advise on which policy interventions conduced to the public interest and which did not, theirs was a never-ending task, a task requiring the work “not of one mind but of many,” and a task that, moreover, served to “heighten the popular interest in political economy, increase the number of its students, and intensify the instinct of union and cooperation.” Rising to his theme of serving the state, Walker (1889, 29) enthused, “in such a work who would not wish to join?”

The 1890s, plagued by financial panic, prolonged economic depression, and labor strife, generated a groundswell of support for economic reform, and with it, political reform. This political turn lent ever-growing credibility to Walker’s idea that advising or serving in government was a surer route to professional success than the traditional public-intellectual model of shaping public opinion by lecturing and publishing in the newspapers and periodicals.

As the economy recovered from the depths of the mid-1890s depression, the professional advantages of government as a client—*the client*—for professional economic expertise were almost taken for granted. In his presidential address to the AEA in 1899, Arthur T. Hadley (1900) put the prevailing view plainly: “Influence in public life . . . is the most important application of our studies.” The greatest opportunity for economists, Hadley urged, lay “not with students but with statesmen.” Hadley, who became president of Yale University the following year, saw economists’ brightest

future not “in the education of individual citizens, however widespread and salutary, but in the leadership of an organized body politic” (Hadley 1899, 206).

Edwin R. A. Seligman of Columbia University, in his own presidential address before the AEA in 1902, argued that the new industrial order made social control a national necessity, which meant, Seligman (1903, 69) reminded his receptive confreres, that economics would be the “basis of social progress,” even “the creator of the future.” On these grounds, the ordinarily circumspect Seligman dared to portray the expert economist as “the real philosopher of social life” and a figure worthy of public “deference to his views.”

At the turn of the century, American economists had only begun to establish themselves as expert advisers to political decision makers. But even at that early moment, the discipline’s leaders foresaw a political role that went beyond providing information and advice to the powerful. The expert economist could not only advise, but lead.

3. Market Failure

Behind social control, of course, was the idea that an unregulated economy no longer worked. Market failure was nothing new in Anglophone political economy. Its leading textbook in the latter half of the nineteenth century, John Stuart Mill’s *Principles of Political Economy*, explored at length the many ways in which markets could go awry. Markets could fail to provide valuable public goods. Markets could, as in the cases of railroads and utilities, lead to monopoly. Markets could also impose spillover costs, such as pollution, on third parties without their consent (Medema 2007). There were also endemic agency problems, as when business managers pursued private ends rather than carry out their fiduciary duties. And, even when they did not fail in these ways, markets could distribute their benefits unequally or unfairly. There was nothing in capitalism, Mill made clear, that ensured a just distribution.

The progressive economists’ German professors nonetheless disparaged Mill as the avatar of “English economics,” their term for the classically liberal tendency of political economy in Great Britain. Mill’s (1848, 515–16) text, after all, had concluded that “*laissez-faire* should be the general practice.” But Mill was not naive about the shortcomings of free markets. He was, rather, skeptical that government interventions to remedy market failures would do more good than harm.

Agency problems afflicted government bureaucrats no less than business bureaucrats. A career civil servant, Mill warned that government was badly informed, its employees were mediocre and often corrupt, and, moreover, politics continually threatened the goals of efficiency and fairness alike. Market ills were serious, but government cures were all too likely to be worse, Mill maintained.

A Millian skepticism toward government's motives and competence was scarcely unfounded in late nineteenth-century America, the notorious heyday of spoils-system patronage and ward-healing machine politics. But, at the turn of the twentieth century, American economists no longer shared Mill's skepticism. They were supremely confident in their own expertise as a reliable, even necessary, guide to economic reform, and optimistic also about the competence of the governments that would deploy it.

Freshly established in the academy, they spoke confidently of the scientific competence of their new discipline. Economic science could diagnose market ills and could prescribe remedies that would treat or even cure them. "Within certain limits," Richard T. Ely (1889, 38) announced in his pioneering textbook, "we can have just such a kind of economic life as we wish."

Yale's Hadley would have demurred at Ely's hyperbole, but his own 1899 presidential address to the AEA reflected American economics' sanguine mood, when it concluded that "economic science is now at the height of its prosperity" (194). Edwin R. A. Seligman's (1903, 69) presidential address confidently forecast that "like natural science, the economics of the future will enable us to comprehend the living forces at work . . . and control them and mould them to ever higher uses." Seligman's confidence was sufficient, recall, for him to portray economists—only barely established as professionals—as the "real philosophers of social life," superintending American economic life for the good of all.

In his 1910 presidential address to the American Association for Labor Legislation (AALL), Yale's Henry Farnam captured the extraordinary self-confidence of economists when he compared scientific progress in economics to scientific progress in surgery (Moss 1996, 16). Surgery, Farnam said, was once primitive and dangerous; it did patients more harm than good. "But increased knowledge," Farnam argued, "has made surgery bold. It is bold because it is instructed" (16).

Recent advances in medical knowledge—especially the revolutionary discovery that germs cause infectious disease—made surgery a positive

benefit to society. Without identifying the comparable scientific revolution in economic science, Farnam announced that the same was now true for economic reform. Economists, Farnam told the gathered labor reformers, possessed scientific knowledge sufficient to ensure that their reform cures were “more effective and less dangerous.”

Farnam’s bold claim exemplified two defining attributes of the professionalizing economists: first, they claimed to be an established science before they were in firm possession of the kind of scientific knowledge possessed by the natural and life sciences they invoked as exemplars, and second, they were also sure that their disinterested expertise provided a reliable guide to the public good.⁵ “The political economist,” Ely’s (1889, 100) textbook informed its readers, “is to the general public what the attorney is to the private individual.”

The economists’ outsized confidence in their own expertise as a reliable, even necessary guide to the public good was nearly matched by their extravagant faith in the transformative promise of the scientific state. On its face this was a puzzle, for progressive economists judged American political life to be as disorganized, inefficient, and corrupt as its economic life. The professionalizing economists, like all progressives, thus placed their fondest hopes for economic reform in an institution—American government and its party system—they judged wholly inadequate to the task (Rodgers 1982, 125).

Their solution to the contradiction was yet more reform, political reform. During the Progressive Era, then, government served a dual role for progressives—simultaneously an instrument and an object of reform. Progressive economists held up the state as the chief agency of economic improvement, but only by presupposing the necessary political reforms that would create a modern administrative state, organized on the efficiency-minded principles of scientific management, which would subordinate politicians, party bosses, and the patronage system to expert advisers situated in a permanent and professional bureaucracy of new investigatory and regulatory agencies—the fourth branch.

By 1917 the fourth branch was established. The US government now taxed personal incomes, corporations, and estates. It created the Departments of Labor and Commerce and dissolved prominent industrial combinations in steel, oil, tobacco, and sugar. It restricted immigration. Its

5. The formulation of the first point I owe to Dorothy Ross, “American Social Science and the Idea of Progress,” 157.

Federal Reserve regulated money, credit, and banking. Its Federal Trade Commission supervised domestic industry, and its new Permanent Tariff Commission regulated international trade. State and federal labor legislation mandated workmen's compensation, banned child labor, compelled children to attend school, inspected factories, fixed minimum wages and maximum hours, paid pensions to single mothers with dependent children, and much more.

The progressive economists who blueprinted and framed the regulatory state agreed that industrial capitalism had made *laissez-faire* obsolete. But they had different (albeit related) views of the state's role in economic life, which arose from differing conceptions of what Progressive Era markets could do. Different conceptions of the state's role also meant different conceptions of what its economic experts do.

To put it overly dichotomously, right progressives, exemplified by John Bates Clark, conceived of the state's role as restoring healthy competition to the market, whereas left progressives conceived of the state's role as replacing the market. Right progressives conceived of market failure as departures from competitive prices that would obtain but for various market imperfections (Leonard 2003). The regulatory state's job, then, was to remedy imperfections and restore competitive prices.

Left progressives, in contrast, were more skeptical of economic competition to begin with. Market failure was not anomalous; under the conditions of industrial capitalism it was endemic. Even competitive markets, left progressives often said, were more destructive than vivifying. Left progressives criticized trade as wasteful "higgling," deemed price competition as "ruinous" or "cutthroat" in certain product markets, and depicted wage competition in labor markets as a destructive "race to bottom."

Unlike Clark and his neoclassical successors, the left progressives and their institutionalist successors defended a more thoroughgoing role for the state. The state expert does not merely police unfair and inefficient trade practices; the state expert *administers* trade, in the same way that the business expert—the scientific manager—administers a large business organization, via planning, management, and centralized direction.

It was the difference between market capitalism and managerial capitalism, which, in turn, derived from different premises of how economic efficiency was obtained. Whereas the right progressive expert aimed to make markets better, because well-functioning markets promote efficiency, the

left progressive expert aimed to make management better, because well-functioning administration, which organized economic activity *outside* the marketplace, was seen as the source of greater efficiency.

4. Left Progressives and the Efficiency Vogue

The left progressives' enthusiasm for administration drew heavily on scientific management. During the decade from 1908 to the US entry into the First World War in 1917, Samuel Haber (1988, 131) writes, "*efficiency* and *good* came closer to meaning the same thing than in any other period of American history." When Jane Addams (1910) argued that labor legislation was necessary for "efficient citizenship," and the labor economist Helen Sumner (1910, 26) maintained that women's industrial employment endangered "efficient motherhood," they well captured the term's vogue.

Like *progressive*, *efficiency* was a virtue word, and its positive connotations extended beyond efficiency in the economic sense, which Louis Brandeis (1934, 51) defined as "greater production with less effort and at less cost, through the elimination of unnecessary waste, human and material." At the peak of the efficiency vogue, *efficiency* connoted modernity, organization, order, a scientific sensibility, and the other virtues associated with enlightened social control.

The late Progressive Era vogue for efficiency had roots in both the labor question and trust question. During the great industrial merger wave of 1895–1904, 1,800 major industrial firms were consolidated into 170 giant firms, and nearly half of the consolidated corporations controlled over 70 percent of their respective industries (Lamoreaux 1988, 1–2).⁶ Was big business more efficient? The progressive economists answered with a resounding yes. As champions of efficiency, they also advocated making government more efficient by importing the modern management practices of big business.

Some historians have seen the progressives as inconsistent, simultaneously criticizing "business-made chaos" while scheming to "reorganize government along business lines" (Rodgers 1982, 126). The progressive economists, right or wrong, saw no inconsistency. In distinguishing the firm from the market, they distinguished managerial capitalism from market capitalism.

6. More than three-quarters of the mergers acquired a market share of more than 40 percent (Lamoreaux 1988, 2).

A large firm was a bureaucratic organization. When administered by expert managers applying scientific methods, the well-run firm was efficient, and its efficiency-enhancing techniques, moreover, could be applied to other forms of organization. A competitive market, in contrast, comprised many small firms and many customers. A competitive market was not an organization and could not be managed. Market decisions were decentralized and its outcomes were unplanned, and *this*, left progressives argued, was the source of economic disorder and waste.

Left progressive economists attacked the free market system, but they did not oppose greater industrial scale. On the contrary, they regarded the new consolidated enterprises as exemplary “islands of conscious power in an ocean of unconscious cooperation,” which, unlike the small merchants and producers they were displacing, were more likely to be scientifically managed and efficient.⁷ Cooperation, not competition, was the source of efficiency.

Expertise lay at the heart of this conception of business efficiency. Efficiency did not arise spontaneously with growth in the size of a business. Efficiency required scientific management. Indeed, large-scale enterprise became viable only after the visible hand of expert management proved more efficient than the invisible hand of market forces (Chandler 1977, 339).

Columbia University’s Wesley Clair Mitchell (1874–1948), one of Thorstein Veblen’s students and later founder of the National Bureau of Economic Research, made this distinction plain in his 1913 magnum opus, *Business Cycles*. Coordination *within* a firm was “the result of careful planning by experts,” whereas coordination *among* independent firms was not planned at all—market orders arose spontaneously. Expert management, or coordination inside the firm, Mitchell said, yielded “economy,” whereas market coordination among firms created “waste.” Thus, the growth in the size of firms brought about by the great merger wave increased economic efficiency, because it increased the scope of expert management, the source of greater cost efficiency, while it reduced the waste of market exchange. In Mitchell’s formulation, economic waste was not business made; it was market made.

Progressive economists regarded big business as a permanent feature of the new economic landscape. “It is useless to abuse and attack the trusts,”

7. Dennis Robertson (1923, 85) memorably described firms as “islands of conscious power in this ocean of unconscious cooperation, like lumps of butter coagulating in a pail of buttermilk.”

John R. Commons said in a column titled “Opinions of New Yorkers” in the September 14, 1889, edition of the *New York Times*; the trusts must be discussed “from the viewpoint of inevitability.” “The true line of policy,” said Princeton’s William F. Willoughby (1898, 94), “is to recognize that consolidation of industrial enterprises is inevitable.” Commons and Willoughby were labor reformers, both of whom became president of the American Association for Labor Legislation, and they judged big business to be, on balance, good for workers (Willoughby 1898).

In fact, most progressive economists judged industrial consolidation as not only inevitable but also desirable. Greater size, they argued, reduced costs in two ways. Firms merged by vertical integration eliminated market-made waste, sometimes derided as “higgling of the market.” No cost-increasing transactions with middlemen were required if Carnegie Steel mined its own coal and iron ore, and transported raw material to its mills using its own barges and railcars. Second, larger industrial scale (and access to lower-cost financing) provided factory workers with technically superior capital equipment, which increased labor productivity, lowering the per-unit cost of production. As Simon Patten concluded, the “combinations were much more efficient than were the small producers whom they displaced” (quoted in DiLorenzo 1985, 84).

Consolidation did more than reduce costs. It also promised higher revenues, insofar as it eliminated what Jeremiah Jenks (1901, 21) called “the wastes of competition,” an idea shared by several progressive economists. Competition in industries with high fixed costs—paradigmatically, railroads—drove rival firms to set prices equal to their very low variable costs of production. Pricing at variable cost meant firms could not recover their fixed costs, thus selling at a loss, which injured profits and wages alike—a phenomenon called “ruinous” or “cutthroat” competition. The horizontal merging of formerly rival businesses reduced ruinous competition by raising prices high enough to recover full costs.⁸ All in all, William F. Willoughby judged, the cost and price advantages of the consolidated firm meant that it ordinarily offered its workers better working conditions, increased safety, more regular hours, and higher wages.⁹

8. Alfred Chandler (1982, 366–67) finds that output prices in consolidated industries fell during the first two decades of the twentieth century. Horizontal combinations resulted in oligopoly, not monopoly, and the competition-reducing effects on price of horizontal combination was more than offset by the cost-reducing effects of manufacturing economies of scale.

9. William F. Willoughby (1898, 89) said, “The environment under which the laborers carry on their work is far superior in the larger establishments.”

Progressive economists certainly were not apologists for big business. They worried about monopoly, which for them meant the consolidated firm's power to restrict output and charge consumers prices above full cost. Like most progressives, they feared the potential of big business to corrupt politics. And some, like John Bates Clark, believed that less competition in industry inhibited technological innovation. But progressives distinguished monopoly from size per se, and because of this, were not antimonopoly in the populist, small-proprietor sense of the term.

Indeed, the 1895–1904 decade of industrial consolidation goes some way toward explaining the puzzle of why, in 1905, William A. White could say “it is funny how we have all found the octopus,” when, as Daniel Rodgers (1982, 124) puts it, “less than a decade earlier . . . his like had denied that animal's very existence.” The consolidated industrial firm “discovered” by economic reformers circa 1905 was, in fact, a new beast. The market values of the new behemoths, exemplified by US Steel's initial capitalization of \$1.4 billion in 1901, were one hundred, even one thousand, times larger than the largest American manufacturing enterprises of the 1870s.

The new industrial giants also organized themselves differently, increasingly adopting the corporate form. Outside of banking, transportation, and utilities, the business corporation had been rare before the 1890s. Only one manufacturing company was listed on the New York Stock Exchange in 1890 (Higgs 1991, 476–77). The decade of industrial consolidation also marked the advent of the industrial corporation.

The consolidated industrial corporation was, moreover, different from the animal conjured in the 1880s by western, agrarian populism, as represented by William Jennings Bryan. The Bryanite populists' antimonopolism, which continued an American political tradition dating back to Andrew Jackson, was more than a protest against the high rates that railroads charged shippers or banks charged farmers. Economic populism also opposed big business because of its competitive threat to small-scale enterprise, a small-is-good position that persisted in American antitrust law into the middle of the twentieth century. For the populists, size *was* monopoly. And though progressives and populists found common ground elsewhere, progressives generally rejected economic populism's defense of what they saw as inefficient and outmoded small producers and merchants.

On the question of trust policy, all three major presidential candidates in the 1912 election offered impeccable reform credentials. The Republican Taft administration had broken up Standard Oil and American

Tobacco, indeed had initiated more antitrust proceedings (in fewer years) than had Theodore Roosevelt, the “trustbuster” who was in 1912 heading the Progressive Party ticket. Woodrow Wilson, the New Jersey governor and Democratic Party nominee, was vigorously antitrust.

There were differences among progressives concerning trust policy. The leading strand of progressive business regulation, represented by Roosevelt, argued that big business should be regulated by big government, but not dismantled. Rooseveltian progressives imagined the federal government as a powerful, neutral defender of the public interest in securing the lower production costs provided by large scale, with vigorous regulation to ensure that the trusts did not abuse their pricing power or corrupt politics.

The aim of Rooseveltian antitrust was not to punish bigness but to punish bad behavior—unfair trade practices or corruption of politics. The job of antitrust regulation was to make big business good rather than to make it small. Rooseveltian progressives regarded breaking up the big firms as impractical and destructive of the efficiencies that large scale provided.

Richard T. Ely (1900, 213), for example, argued that naturally evolved big businesses were “a good thing, and it is a bad thing to break them up; from efforts of this kind, no good has come to the American people.” Progressive political journalists used blunter language. Walter Lippmann (1914, 124), writing in *Drift and Mastery*, sneered at the small proprietor celebrated by populist antitrust:

If the anti-trust people . . . [did] what they propose, they would be engaged in one of the most destructive agitations that America has known. They would be breaking up the beginning of collective organization, thwarting the possibility of cooperation, and insisting upon submitting industry to the wasteful, the planless scramble of little profiteers.

Lippmann’s *New Republic* colleague, Herbert Croly (1909, 359), said that the small businessman should be “allowed to drown.”

The barons of big business found such rhetoric congenial. They too invoked the language of cooperation, efficiency, and elimination of “ruinous competition” to defend their consolidated giants against government breakup. “The day of the combination is here to stay,” John D. Rockefeller proclaimed, and “individualism has gone never to return” (Ne vins 1959, 169).

Louis Brandeis represented the minority position that mainstream anti-trust assailed, and, until he was appointed to the US Supreme Court in

1916, he had an influential client in President Wilson. Brandeis was skeptical about the greater efficiency said to obtain with large scale. The industrial giants were supplanting small business not with lower costs, he said, but with unfair practices. Brandeis also worried that the Rooseveltian approach might lead to business capture of its regulators, or worse. Leaving the behemoths intact, Brandeis warned, could enable rather than impede a plutocratic corruption of democracy.

Brandeis's condemnation of what he called "the curse of bigness" made him an outlier among economic reformers, a sophisticate with populist conclusions. Thomas McCraw (1984b, 94) aptly characterized Brandeis as less "the people's lawyer" than "the small businessman's lawyer." Brandeis (1934) was skeptical that Jeffersonian ends could ever safely be entrusted to the Hamiltonian means of Roosevelt and the other economic progressives who, in his view, uncritically placed their faith in the ongoing virtue and wisdom of big government.

Brandeis's skepticism that Hamiltonian means could reliably serve Jeffersonian ends was rare indeed among economic progressives. Most economic progressives were, like Herbert Croly, supremely confident that Hamiltonian means could be made to serve progressive ends, provided the "wise minority" was in the saddle.

5. Taylorism: Bible of the Efficiency Gospel

The bible of the 1910s gospel of efficiency was Frederick Winslow Taylor's international best seller, *The Principles of Scientific Management* (1911). A century later, scientific management, or *Taylorism*, ordinarily serves as a term of abuse. Taylorism is today most often associated with dehumanizing work practices, time and motion studies, a preoccupation with worker malingering, and the deskilling of labor. The Taylor system, on this reading, treated workers as mere cogs in the industrial machine.

But the original progressive economists and their reform allies regarded scientific management altogether differently. Taylor's program appealed to a great many American progressives, who saw in Taylorism a scientific method for improving workers' jobs and wages, and a system for making factory work and other forms of organization more efficient. Taylor's biographer rightly judged *The Principles of Scientific Management* "a progressive manifesto."¹⁰

10. Daniel Nelson, quoted in Kanigel 1997, 504.

Taylor's great champion was Louis Brandeis, who called Taylor a genius and made Taylor's national reputation by using scientific management theory to criticize the railroads in the *Eastern Rate* case of 1910. Brandeis, who represented the shippers opposed to the rate increase that the eastern railroads sought from the Interstate Commerce Commission, invoked Taylor to argue that railroads would not need higher rates if only they would manage their costs more efficiently, using the principles of scientific management. Brandeis's star witness, the efficiency expert Harrington Emerson, testified that the railroads were wasting about \$22 million per day (in 2014 dollars) (Alexander 2008, 79).¹¹ "The coming *science of management* in this century," Brandeis gushed, marked "an advance comparable only to that made by the coming of the *machine* in the last" (quoted in Kanigel 1997, 504).

John R. Commons called scientific management "the most productive invention in the history of modern industry" (quoted in Haber 1964, 148). Commons (1921, 272) later claimed, after leading a platoon of Wisconsin graduate students through a study of thirty industrial firms, that capitalism could be cured, but only through the intervention of expert management. Theodore Roosevelt saw the efficiency gains from scientific management as a vital example of national conservation. Scientific management, said Roosevelt, "is the application of the conservation principle to production. . . . We couldn't ask more from a patriotic motive, than Scientific Management gives from a selfish one" (quoted in Gilbreth 1912, 2).

Muckraking journalists, who made their living treating business claims dubiously, piled on the Taylor bandwagon with alacrity. Ida Tarbell, who made her reputation with a damning critique of Standard Oil, referred to Taylor as a creative genius, telling her readers that "no man in history has made a larger contribution to . . . genuine cooperation and juster human relations" (quoted in Kanigel 1997, 104–5). Ray Stannard Baker, another leading muckraker, serialized Taylor's *Principles of Scientific Management* in his *American Magazine*, introducing it with a fawning profile of Taylor titled "The Gospel of Efficiency" (1911). Political journalists also embraced Taylorism; the *New Republic's* Walter Lippmann, for example, told his readers that scientific management would "humanize work" (Haber 1964, 94).

Florence Kelley, like many leading progressives, joined the Taylor Society, which, during the 1920s, served as a refuge for future New Dealers

11. Emerson referred to Taylor's early paper "Shop Management" (1903) as "one of the most important papers ever published in the United States" (quoted in Gilbreth 1912, 6).

such as Rexford Tugwell and John Maurice Clark. Tugwell (1932), a member of Franklin D. Roosevelt's "Brains Trust," later said that "the greatest economic event of the nineteenth century occurred when Frederick W. Taylor first held a stop watch on the movements of a group of shovellers in the plant of the Midvale Steel Company" (quoted in Nyland 1996, 987). Taylor's disdain for "pre-scientific management," and the emphasis that Taylor's system placed on the technological aspects of production over the financial side of business, eventually won over Thorstein Veblen, originally a skeptic.

The superlatives showered on Taylor reveal how attracted progressives were to his vision of management by experts. Taylor offered them an irresistible package: efficiency, workplace harmony, and social justice, all realized via the expert application of science. A properly scientific approach to management, Taylor promised, one that brought system and scientific rigor to the heretofore prescientific and disorderly enterprise of running a factory, would not only increase production but also promote industrial peace and greater fairness. As Samuel Haber (1964, x) observed, efficiency in the 1910s promised more than increased production; it also promised social harmony and cooperation.

Scientific management represented itself as the product of science—the application of engineering methods to business management. Rather than follow arbitrary rules of thumb, the industrial engineer would, via observation and experiment, methodically determine optimal work techniques, scientifically discovering the "one best rule." It was, Taylor (1911, 65) said, a "science of shoveling." That the science in scientific management was far more applied than theoretical in emphasis only heightened its appeal to economic reformers.

Scientific management also promised to advance workplace fairness. When Taylor substituted scientific planning for what he saw as the arbitrary power of bosses (shop foremen), progressives hailed the substitution of the "leadership of the competent" for the leadership of the bosses (Haber 1964, x). Scientific management, said Herbert Croly, replaced "robber barons" with "industrial statesman," a term that captures the progressive faith in technocratic leadership while revealing something of what Croly meant by *industrial democracy* (quoted in Haber 1964, x).

"In the past," Taylor (1911, 7) declared, "the man has been first, in the future, the system must be first." Of course, claims about system notwithstanding, Taylor, like all planners, was not eliminating authority. He was

merely relocating it, by placing real authority, especially the authority to hire and fire, with the firm's planning department. Taylor did indeed reduce the power of the shop-floor foremen, but he did so by giving it to the efficiency experts (Haber 1964, 25).

Greater harmony between labor and capital, Taylor promised, would come via two channels: one, better work techniques and increased monitoring of worker effort, and two, the conflict-reducing consequences of increased output. The former ultimately proved to be the undoing of Taylorism. Production workers resisted greater management monitoring of their work effort. Nor did they gratefully receive the tutelage of efficiency experts, with its presumption that, as one contemporary reviewer of Taylor put it, "the best method is the one the individual laborer cannot discover for himself, and hence it is the function of management to discover and apply it" (Jones 1911, 834).

When the Taylor system was installed at the Watertown (Massachusetts) Arsenal, workers staged a walkout and successfully petitioned the War Department for its removal (Drury 1915, 138–41). Taylor's governing premise—that more supervision and less autonomy would be welcomed by workers, if only the new authorities were scientifically trained experts rather than shop-floor foremen—was, in retrospect, preposterous, but it successfully flattered the technocratic prejudices of economic progressives.

Most alluringly, in an era with four new strikes called every day, the efficiency gains claimed by scientific management held out the prospect of reducing labor-management conflict. Increased industrial production, Taylor said, would make it possible for "both sides [to] take their eyes off the division of the surplus until this surplus becomes so large that it is unnecessary to quarrel over how it shall be divided" (quoted in Haber 1964, 27). Taylor believed that both workers and management wrongly regarded labor conflict as endemic to industrial capitalism, when, in fact, the true cause of labor conflict was the inefficiency of traditional production methods. Once higher wages and profits showed them that they shared the common enemy of inefficiency, workers and management, Taylor believed, would be induced to work cooperatively.

This last Taylorite notion—applied scientific knowledge, when imparted through improved structures of political and economic governance, would treat and even cure conflict—was at the core of American progressivism. As reformers rather than revolutionaries, progressives tended to regard

industrial conflict not as the necessary outcome of incorrigibly opposed economic interests but as a preventable mistake caused by misapprehension of what those interests were—a mistake, moreover, that experts could perceive and remedy.

However much Taylor's claims read as hyperbole today, in the 1910s scientific management offered progressives an almost irresistible vision—a scientific, expert solution to the labor question. Factory work would be made more efficient and more humane. Workers' wages would be increased, and the new industrial giants would be governed not by profit-grubbing capitalists but by socially minded scientific experts.

6. Scientific Management of Humankind

Progressives enthusiastically and rapidly seized on industrial efficiency as an exemplar, imagining that scientific management could increase efficiency not just on the shop floors of factories but in all corners of an industrial society plagued by waste, conflict, and injustice. Following Brandeis's 1910 intervention on behalf of Taylor, a flood of reform volumes on efficiency appeared, preaching greater efficiency in government, in charity, in education, in medicine, in religion, in the home, and in human beings themselves. The times, argued the progressive sociologist Charles Horton Cooley, demanded nothing less than a "comprehensive 'scientific management' of mankind, to the end of better personal opportunity and social function in every possible line" (quoted in Quandt 1970, 139).

The idea of applying business planning methods to improve government enjoyed great currency among economic progressives, not least because government was their central agency of improvement. Many American cities established efficiency bureaus, spearheaded by New York City's Bureau of Municipal Research, which was cofounded in 1906 by Edwin R. A. Seligman, to promote, as its motto read, "the application of scientific principles to Government."¹² Its many publications bore the title "efficient citizenship." Milwaukee's city government established the Bureau of Economy and Efficiency in 1910 and tapped John R. Commons to run it. Carl Sandburg (1911), covering efficiency for *La Follette's Weekly Magazine*, ingenuously described Commons "as one of those rest-

12. This was the Bureau of Municipal Research motto inscribed on the cover of its publication, *Municipal Research*.

less, persistent geniuses of toil,” whose work combating waste in Milwaukee was “blazing a way out of the civic wilderness.”

The New York Bureau of Municipal Research was retained by other cities, as a kind of consultancy, to review the efficiency of their budgeting methods, operations, and finances. When, in 1911, the New York Bureau opened its Training School for Public Service, the first ever dedicated to training civil servants for the task of public administration, it recruited Taylor for lectures and required all its students to read his *Principles of Scientific Management* (Nyland 1996, 992). Commons likewise brought to Milwaukee nationally known scientific management gurus, experts such as Harrington Emerson, Brandeis’s star witness in the *Eastern Rate* case.

The cause of making government more efficient gained impetus with its ever-expanding size and scope. A number of American cities replaced mayors with technocratic city managers, who promised not politics but management. Cities, like industrial firms, could be scientifically administered, provided partisanship and politics were successfully pushed to one side, as Frederic Howe claimed the state of Wisconsin had done.

State governments also founded efficiency bureaus, and President William Howard Taft created the United States Commission on Economy and Efficiency, which operated from 1910 to 1913. The Institute for Government Research, a proto–think tank chartered in 1916 (and in 1927 consolidated into the Brookings Institution), was founded by advocates of greater government efficiency.

President Taft imported as a commissioner Frederick D. Cleveland of the New York Bureau and also tapped the Princeton economist William F. Willoughby, president of the American Association for Labor Legislation and a leader of the progressive movement for more efficiency in government. Willoughby (1919, 4) held up administrative government as the way to achieve “the same standards of efficiency and honesty which are exacted in the general business world.” Popularly controlled government was too “prone to financial extravagance” and no longer up to the rigors of governance now that government had entered nearly “every field of activity.”

Willoughby argued, in the name of efficiency, that US government power should be consolidated under the executive branch. The American founders’ separation-of-powers doctrine, which decentralized power by design, was just as obsolete as small shops and artisanal producers of the early nineteenth-century economy. Willoughby’s contempt for constitutional checks and balances was widely shared among progressive political scientists of the day. Columbia’s Charles Beard, who in 1915 was named

director of the New York Bureau's Training School for Public Service, disparaged the separation of government powers as "the political science of negation" (quoted in Rodgers 1987, 182).

The new university discipline of political science, just beginning its emergence from social science departments, referred to the scientific study of improving government as public administration. Woodrow Wilson, long before entering politics in 1910, the beginning of the efficiency vogue, was a pioneering theorist of public administration, which sought to centralize and rationalize American government. "The field of administration," Wilson wrote in 1887, "is a field of business . . . removed from the hurry and strife of politics. . . . It is a part of political life only as the methods of the counting-house are part of the life of society; only as machinery is a part of the manufacture product" (209–10). Like its social control sibling in economics, public administration was technocratic in spirit. By professionalizing government service, experts insulated from politics could make public policy less partisan and more efficient.

In these respects, Wilson the academic was quintessentially progressive: he not only believed that a science of public administration could improve American government; he also believed that intellectuals do not merely serve the public interest but *lead* the public interest, by their superior ability to identify the social good.¹³ Having been among the vanguard of professionalizing economists in the late 1880s and 1890s, Wilson also saw that laissez-faire politics was a bar to the disciplinary professionalization of political science, no less so than laissez-faire economics had been a bar to the professionalization of economic science. In this sense, Progressive Era political reform was of a piece with Progressive Era economic reform. Under the banner of efficiency, it moved real power from untrained partisans and bosses to expert administrators, regulatory bodies, and the executive branch (Eisenach 2006, viii–ix).

7. Right Progressive Views of Market Failure

Right progressive views of economic policy were informed by marginalist economics, a late nineteenth-century theoretical innovation led in America

13. Wilson, in the 1912 presidential election, presented himself as the people's champion, but his concept of democracy was, like the social controllers, limited. Stockton Axson, his brother-in-law, observed: "His instinct for democracy involved the idea that, because a democracy is free, it is the more necessary that it be led. His faith in the people has never been a faith in the supreme wisdom of the people, but rather in the capacity of the people to be led right by those whom they elect and constitute their leaders."

by John Bates Clark. *Marginalism* describes the views of economists who endorsed both marginal analysis of consumption (marginal utility) and of production (marginal productivity). Clark's marginal productivity theory, definitively gathered in his magnum opus, *The Distribution of Wealth*, posulated that properly competitive markets pay workers wages equal to the value of their contribution to output. When workers received wages worth less than the marginal worker's contribution to output, owing to a lack of competition or other market failure, they were exploited and deserved more.

When Clark argued that a wage equal to the value of marginal product was not only efficient but also just, his critics were many. His former student, Thorstein Veblen, derided Clark's theory as "neoclassical," an epithet meant to imply that marginalist economics was just laissez-faire dressed up in a new theoretical costume. But Clark (1890, 44) offered what rival progressive theories of wage determination did not, an analytically determinate answer to the vital question of whether workers were getting paid what they should: "to every man his product, his whole product, and nothing but his product."¹⁴

Clark's answer was also, at least in principle, measurable. Measure the value of the additional goods produced by the last worker hired, Clark said, and you knew what a fair wage was. Whatever the merits of Clark's distributive ethics, and they were vigorously disputed, other progressive conceptions of fair wages were embarrassingly vague, offering little guidance to wage investigators and regulators (Persky 2000). "We know," Clark (1894) could say of his competitive-wage standard, "at what we should aim."¹⁵

Clark's marginalism, moreover, theoretically connected labor markets to markets for goods—just as competitive prices were efficient in product markets, so too were competitive wages efficient in labor markets. When big business priced its products above the competitive price, it was both unfair and inefficient, just as it was unfair and inefficient when big business paid its workers wages below competitive levels. Clark's marginalist economics used the same general theory to address the labor question as well as the monopoly question.

Clark was naive in his hope that the public would seize on his conception of marginal-product wages as a natural solution to the labor question.

14. Clark's critics were legion, but nearly all missed one flaw in Clark's argument: even if it were true that wages were fair when they equaled the value of the worker's contribution to output, it did not follow that the distribution of productive ability among workers was also fair. That is, a fair wage did not entail a fair income distribution.

15. This is his presidential address to the AEA, "Modern Appeal to Legal Forces."

And his conservative critics, men like J. Lawrence Laughlin, were no less numerous than those, like Veblen, on the left. But economists gradually came to see the professional, political, and conceptual advantages in it.

Clark's marginal-productivity theory of wages was reformist without being radical; it offered, as Clark (1914, 5) had it, a "golden mean" between letting the state do nothing and having it do everything. It also offered a determinate and, in principle, measurable goal for wage regulation, all part of a general theory of price determination that applied to the labor market as well as the market for goods.¹⁶ Politically, competitive wages also seemed to provide a compromise position between the slogan "more for labor" and the *laissez-faire* view that labor deserves whatever it gets.

No less than his left progressive colleagues, Clark's primary concern was that American economic arrangements be made ethically defensible (Homan 1927, 41). "The supreme question is a moral one," Clark (1912, 72) said plainly: "Is labor generally getting its due?" Clark also placed the expert economist at the heart of the regulatory system, for he believed that competitive wages and prices required state investigation and regulation. The economic expert was required to determine whether big business was engaging in anticompetitive practices, be it collusion to fix prices, predation to drive out competitors, or contracts to bar customers from dealing with its rivals. Experts would also be needed to ensure that the tariff was not so high as to create monopoly and to ascertain whether and when big business was pricing its goods above competitive levels or paying its workers less than competitive wages.

Moreover, Veblen's epithet of "neoclassical" notwithstanding, Clark did not share his classical predecessors' thoroughgoing skepticism about government's willingness and competence to enact successful economic regulation. "We are dependent on action by the state for results and prospects which we formerly secured without it," Clark (1907, 380) made clear. "Though we are forced to ride roughshod over *laissez-faire* theories, we do so in order to gain the end which those theories had in view, namely, a system actuated by the vivifying power of competition, with all that that signifies of present and future good" (380).

Clark was quintessentially progressive in his belief that the expert economist could identify what was socially good, could accurately measure departures from competitive prices, could successfully determine

16. In Mary Furner's terminology, Clark was more a corporate liberal than democratic statist. See Furner 1990.

fair wages independent of the representatives of labor and industry, could monitor and enforce regulatory compliance, all the while maintaining a single-minded focus on the social good and an Olympian objectivity unswayed by bias, capture by regulated parties, or systematic error.

8. Conclusion

If I have too starkly dichotomized left and right progressive conceptions of economic expertise, it is in order to illuminate subtle but historically important differences, not to imply that Progressive Era boundaries of left and right were fixed among the progressive economists. Ideological boundaries were fluid, and economic theory was plural. Moreover, both shifted with changing economic and political conditions, and with the changing vocational opportunities for expert economists serving the state.

All this said, I find the left and right progressive heuristic useful. Though space precludes elaboration, it helps us, for example, understand American economics before the Second World War as contingent, shifting professional alliances organized around these rival but overlapping views of what the administrative state can and should do in commercial life. Institutionalist economics (Rutherford, this issue) carried forward much of the left-progressive program, and neoclassical economics carried forward much of the right-progressive program.

During the Progressive Era, left and right progressives regularly found common ground, as they did in the American Association for Labor Legislation (AALL), a “child of the AEA” formed in 1905. The AALL featured social gospel firebrands like Richard T. Ely and John R. Commons, and was run by several of Commons’s protégés, while also enlisting men such as AALL cofounder Henry Farnam; Yale’s Irving Fisher, sixth AALL president; and Harvard’s Frank Taussig, a longtime affiliate. The AALL’s major campaigns successfully fought to eliminate industrial hazards such as phosphorous poisoning of match workers, to compensate workers injured in industrial accidents, and to fix minimum wages. Fisher led the AALL’s unsuccessful campaign to compel government provision of health insurance.

At other times, left and right progressives moved apart. Clark’s right progressive conception of economic policy as policing and remedying market failures was too circumscribed for many left progressives, especially for those who regarded economic competition as more destructive than vivifying. Equally important, recurring catastrophe in the first half

of the twentieth century—notably two world wars, the Dust Bowl, and two economic depressions, one Great and one small—created new vocational opportunities. War and economic crisis have invariably enlarged the size, scope, and influence of the fourth branch and of economists who advise and staff it.

Mobilization for the First World War offered left progressives the chance to pursue their grander, more statist schemes of intervention, and they seized it. The US War Industries Board (WIB) introduced Americans to scientific management methods applied by the government to the entire economy; it coordinated most government purchasing, determined the allocation of economic resources, established priorities in output, restricted the alcohol trade (a dress rehearsal for Prohibition), and fixed prices on commodities in over sixty industries (Fogel et al. 2013). The chief of the WIB's Central Bureau of Planning and Statistics was the economist Edwin F. Gay, dean of the Harvard Graduate School of Business Administration and a former president of the Massachusetts branch of the AALL. Gay was a champion of Taylorism who once described scientific management as “the most important advance in industry since the introduction of the factory system and power machinery.”¹⁷

Gay and other economists, notably his friend Wesley Clair Mitchell, who ultimately directed the WIB's Price Division, put their scientific management ideas into government practice, first, by gathering and systematizing economic information (Cuff 1989). Mitchell's Price Division, for example, produced an immense study of American wholesale prices, data crucial for directing wartime production from Washington.

When Grosvenor Clarkson, WIB member and historian, called the WIB an “industrial dictatorship,” he exaggerated, but for the purposes of paying a compliment, namely, that the WIB established that the “whole productive and distributive machinery of America could be directed successfully from Washington (quoted in McGerr 2003, 287, 285). Economic mobilization for war was, in Clarkson's characterization, “a story of the conversion of one hundred million combatively individualistic people into a vast cooperative effort in which the good of the unit was sacrificed to the good of the whole.” In appraising the advantages that war collectivism provided to the progressive movement, Clarkson volunteered that they “almost [made] war appear a blessing instead of a curse” (quoted in McGerr 2003, 299).¹⁸

17. Quoted in the *American Magazine* (1911, 563).

18. My discussion of the WIB is indebted to McGerr 2003, especially pages 283–99.

The WIB's success at war mobilization affirmed the progressive faith in expertise and legitimized the idea of scientific management applied to the entire economy. John Dewey, for one, believed that the success of war collectivism was the most important result of the First World War. It demonstrated, Dewey said, that expert central planners could direct a vast economy from Washington. In but a few months, Dewey ([1918] 1929a, 517) wrote, "the economists and businessmen called to the industrial front" had done more to demonstrate the practicability of social control than had a generation of "professional Socialists." The great success of American wartime economic planning, Dewey ([1918] 1929b, 557) said, was a "revolution" in economics, impossible to ignore.

President Wilson saw it differently and dismantled most of the economic planning apparatus. More statist regulation would have to await the New Deal. But the fourth branch remained, in state governments and in the US government, newly (and permanently) fortified by the wartime tax regime. Even after demobilization, federal spending, adjusted for inflation, was nearly triple its prewar levels.¹⁹

If American economists were not yet the "real philosophers of social life" Edwin R. A. Seligman had dared to portray them as in 1902, they had successfully seized the professional opportunity presented by the demands of war and reconstruction, and consolidated while expanding their new national role as expert advisers and policymakers. Wesley Clair Mitchell (1924, 33), reflecting in 1924, observed that the Great War had restored to "economic theory the vitality it had after the Napoleonic wars." The First World War had been a global catastrophe in countless ways, but it proved to be a boon for American economic expertise in the service of the state.

References

- Addams, Jane. 1910. "Charity and Social Justice." *North American Review* 192 (656): 68–81.
- Alexander, Jennifer Karns. 2008. *The Mantra of Efficiency: From Waterwheel to Social Control*. Baltimore: Johns Hopkins University Press.
- Brandeis, Louis D. 1934. *The Curse of Bigness: Miscellaneous Papers of Louis D. Brandeis*. Edited by Osmond K. Fraenkel. New York: Viking.
- Chandler, Alfred. 1977. *The Visible Hand*. Cambridge, Mass.: Belknap Press of Harvard University Press.

19. In 1914 US government expenditures were \$735 million. In 1922 they were \$3,324 million. Adjusted for inflation (about 58 percent [1914–22]), US government spending nearly tripled. See *US Historical Statistics*, Series P 99–108, Series L 1–14.

- Clark, John Bates. 1890. "The Law of Wages and Interest." *Annals of the American Academy of Political and Social Science* 1 (1): 43–65.
- . 1894. "Modern Appeal to Legal Forces in Economic Life." *Publications of the American Economic Association* 9 (5–6): 9–30.
- . 1907. *Essentials of Economic Theory*. New York: Macmillan.
- . 1912. "The Federal Commission on Industrial Relations: Why It Is Needed." In *Proceedings of the Academy of Political Science, Vol. II, 1911–12*, 71–74. New York: Columbia University.
- . 1914. *Social Justice without Socialism*. Boston: Houghton Mifflin.
- Commons, John R. 1921. *Industrial Government*. New York: Macmillan.
- Croly, Herbert. 1909. *The Promise of American Life*. New York: Macmillan.
- Cuff, Robert. 1989. "Creating Control Systems: Edwin F. Gay and the Central Bureau of Planning and Statistics, 1917–19." *Business History Review* 63:588–613.
- Dewey, John. (1918) 1929a. "Propaganda." In *Characters and Events: Popular Essays in Social and Political Philosophy*, edited by Joseph Ratner, 2. New York: Henry Holt.
- . (1918) 1929b. "The Social Possibilities of War." In *Characters and Events: Popular Essays in Social and Political Philosophy*, edited by Joseph Ratner, 2. New York: Henry Holt.
- DiLorenzo, Thomas J. 1985. "The Origins of Antitrust: An Interest-Group Perspective." *International Review of Law and Economics* 5 (1): 73–90.
- Drury, Horace B. 1915. "Scientific Management: A History and Criticism." PhD diss., Columbia University.
- Eisenach, Eldon, ed. 2006. *The Social and Political Thought of American Progressivism*. Indianapolis, Ind.: Hackett.
- Ely, Richard T. 1889. *Introduction to Political Economy*. New York: Chautauqua.
- . 1900. *Monopolies and Trusts*. New York: Macmillan.
- Fogel, Robert William, Enid M. Fogel, Mark Guglielmo, and Nathaniel Grotte. 2013. *Political Arithmetic: Simon Kuznets and the Empirical Tradition in Economics*. Chicago: University of Chicago Press.
- Furner, Mary. 1990. "Knowing Capitalism: Public Investigation and the Labor Question in the Long Progressive Era." In *The State and Economic Knowledge: The American and British Experiences*, edited by Mary O. Furner and Barry E. Supple, 241–86. Cambridge: Cambridge University Press.
- Gilbreth, Frank. 1912. *Primer on Scientific Management*. New York: D. Van Nostrand.
- Haber, Samuel. 1964. *Efficiency and Uplift: Scientific Management in the Progressive Era, 1890–1920*. Chicago: University of Chicago Press.
- . 1988. "Efficiency." In *Historical Dictionary of the Progressive Era, 1890–1920*, edited by John D. Buenker and Edward R. Kantorovich, 130–31. Westport, Conn.: Greenwood Press.
- Hadley, Arthur T. 1899. "The Relation between Economics and Politics." *Yale Law Journal* 8 (4): 194–206.
- . 1900. "Economic Theory and Political Morality." *Publications of the American Economic Association*, 3rd ser., 1 (1): 45–61.

- Higgs, Robert. 1991. "Origins of the Corporate Liberal State." *Critical Review: A Journal of Politics and Society* 5 (4): 475–95.
- Homan, Paul T. 1927. *Contemporary Economic Thought*. New York: Harper.
- Jenks, Jeremiah W. 1901. *The Trust Problem*. New York: McClure, Phillips & Co.
- Jones, Edward D. 1911. Review article. *American Economic Review* 1 (4): 833–36.
- Kanigel, Robert. 1997. *The One Best Way*. New York: Viking.
- Lamoreaux, Naomi R. 1988. *The Great Merger Movement in American Business, 1895–1904*. Cambridge: Cambridge University Press.
- Leonard, Thomas C. 2003. "'A Certain Rude Honesty': John Bates Clark as a Pioneering Neoclassical Economist." *History of Political Economy* 35 (3): 521–58.
- Lippmann, Walter. 1914. *Drift and Mastery: An Attempt to Diagnose the Current Unrest*. New York: Mitchell Kennerly.
- McCraw, Thomas. 1984a. "Business and Government: The Origins of the Adversary Relationship." *California Management Review* 26 (2): 33–52.
- . 1984b. *Prophets of Regulation: Charles Francis Adams, Louis D. Brandeis, James M. Landis, Alfred E. Kahn*. Cambridge, Mass.: Harvard University Press.
- McGerr, Michael. 2003. *A Fierce Discontent: The Rise and Fall of the Progressive Movement in America, 1870–1920*. New York: Free Press.
- Medema, Steven G. 2007. "The Hesitant Hand: Mill, Sidgwick, and the Evolution of the Theory of Market Failure." *History of Political Economy* 39 (3): 331–58.
- Menand, Louis. 2001. *The Metaphysical Club*. New York: Farrar, Straus and Giroux.
- Mill, John Stuart. 1848. *Principles of Political Economy, with Some of Their Applications to Social Philosophy*. Vol. 2. London: John W. Parker.
- Mitchell, Wesley Clair. 1924. "The Prospects of Economics." In *The Trend of Economics*, edited by Rexford Tugwell, 3–34. New York: Knopf.
- Moss, David. 1996. *Socializing Security: Progressive-Era Economists and the Origins of American Social Policy*. Cambridge, Mass.: Harvard University Press.
- Nevins, Allan. 1959. *John D. Rockefeller*. New York: Scribner.
- Nyland, Chris. 1996. "Taylorism, John R. Commons, and the Hoxie Report." *Journal of Economic Issues* 30 (4): 985–1016.
- Persky, Joseph. 2000. "The Neoclassical Advent: American Economics at the Dawn of the 20th Century." *Journal of Economic Perspectives* 14 (1): 95–108.
- Quandt, Jean B. 1970. *From the Small Town to the Great Community: The Social Thought of Progressive Intellectuals*. New Brunswick, N.J.: Rutgers University Press.
- Robertson, Dennis. 1923. *Control of Industry*. New York: Harcourt, Brace.
- Rodgers, Daniel T. 1982. "In Search of Progressivism." *Reviews in American History* 10 (4): 113–32.
- . 1987. *Contested Truths: Keywords in American Politics since Independence*. New York: Basic Books.
- Ross, Dorothy. "American Social Science and the Idea of Progress." In *The Authority of Experts*, edited by Thomas L. Haskell, 157–75. Bloomington: Indiana University Press.

- Sandburg, Carl. 1911. "Making the City Efficient." *La Follette's Weekly Magazine*, September 11, 6–7, 14–15.
- Seligman, Edwin R. A. 1903. "Economics and Social Progress." *Publications of the American Economic Association*, 3rd ser., 4 (1): 52–70.
- Skocpol, Theda. 1992. *Protecting Soldiers and Mothers: The Political Origins of Social Policy in the United States*. Cambridge, Mass.: Belknap Press of Harvard University Press.
- Sumner, Helen. 1910. "The Historical Development of Women's Work in the United States." *Proceedings of the Academy of Political Science in the City of New York* 1 (1): 11–26.
- Taylor, Frederick Winslow. 1911. *Principles of Scientific Management*. New York: Harper.
- Tugwell, R. G. 1932. "The Principle of Planning and the Institution of Laissez-Faire." *American Economic Review* 2:75–92.
- Walker, Francis Amasa. 1889. "The Recent Progress of Political Economy in the United States." In *Report of the Proceedings of the American Economic Association*, 17–40.
- Wiebe, Robert. 1967. *The Search for Order, 1877–1920*. New York: Hill and Wang.
- Willoughby, William F. 1898. "The Concentration of Industry in the United States." *Yale Review*, o.s., 7:72–92.
- . 1919. "The Modern Movement for Efficiency in the Administration of Public Affairs." Introduction to *Organized Efforts for the Improvement of Methods of Administration in the United States*, by Gustavus Adolphus Weber. New York: D. Appleton.
- Wilson, Woodrow. 1887. "The Study of Public Administration." *Political Science Quarterly* 2 (June): 197–222.