At the turn of the 20th century railroad regulation was hotly debated in the US. Railways were accused of abusing of their monopolistic positions, in particular by discriminating rates. Public opinion’s pressure for tighter regulation led to the 1906 enactment of the Hepburn Act, which strengthened the powers of the Interstate Commerce Commission. American economists actively participated to the debate. While most of them sided with the pro-regulation camp, the best economic analysis came from those who used the logic of modern law and economics to demonstrate how most railroads’ practices, including rate discrimination, were simply rational, pro-efficiency behavior. However, as relatively unknown Chicago University economist Hugo R. Meyer would discover, proposing that logic in public events could at that time cost you your academic career.

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When law and economics was a dangerous subject:  
the controversy over railroad regulation before the Hepburn Act

§1. Introduction: a popular (and risky) theme

Presenting his paper on “Government regulation of railway rates” in the early afternoon of December 27th, 1905, at the special session on railroad regulation organized during the 18th Annual Meeting of the American Economic Association (AEA), Hugo Richard Meyer was probably quite optimist about his academic future. Already a mature scholar, his lingering academic career had finally taken a positive bent the year before, with an appointment as assistant professor of Political Economy at the University of Chicago.¹ Between 1905 and 1907 he would publish intensively, including four books and several scientific papers, on his preferred subject of railroad and public utility regulation. And now he was about to give his most important talk, in front of the country’s best economic minds.

The topic Meyer was going to cover was high on the list of economic debates at the time. Always a thorny issue, railroad regulation had become the object of heated controversy in the months before the passing of the Hepburn Act (June 1906). Strongly endorsed by US President Theodor Roosevelt, the Act would beef up the power of the Interstate Commerce Commission (ICC), establishing, among other things, the Commission’s authority to fix maximum railroad rates.

American economists took an active part to the discussions preceding the enactment of the bill. At his 1904 Meeting the AEA had already hosted a special session, jointly organized with the American Political Science Association, about “Corporations and Railways”. Now another special session, this time on “The Regulation of Railway Rates”, had been set up. Beyond publishing the material from the two sessions, the AEA would also dedicate one of its monographs to a long essay on “Railroad rate control in its legal aspects”, by Michigan economist and former ICC member Harrison Standish Smalley. Overall, railroad economics would occupy more than 250 pages of the Publications of the AEA – the forerunner of the American Economic Review – between May 1905 and May 1906.

¹ Born in 1866, before moving to Chicago Meyer had only been instructor in Political Economy at Harvard (where he had graduated in 1892) from 1897-1903.
No doubt, Meyer’s paper dealt with a hot topic. What he could not figure out yet was how hot it would turn out to be – indeed, so hot that it would burn his dreams of an academic career and de facto force him into exile.

By the end of the 19th century, the classical faith in the market’s self-policing ability had almost vanished in the economic profession. The US economists’ take on the regulatory issue focused on the allocative function rate regulation should accomplish, downplaying the classical themes of justice and equality. And railroads were of course the issue, as far as regulation was concerned. Already by the 1860s, they represented the most important institution in America in terms of employees, capitalization and social influence. No surprise, then, that the first comprehensive regulatory measure passed by Congress, the 1887 Interstate Commerce Act, was designed to regulate the railroad industry, via the institution of the ICC. Indeed, by that date, states had already been regulating railroads for the previous half century and courts had been called to adjudicate law several times in regulatory conflicts between the states, the railroads and the other subjects having an interest in railway services.

Every economist agreed that, in theory, free markets would determine normal price as the long run equilibrium value of railway services and that this normal price would conform to production cost. At the same time, almost everybody recognized that in the case of monopoly railroads competitive forces would fail to exercise sufficient pressure to push the prices down to production cost and that in this failure of competition to properly work lay the rationale for rate regulation. American city planner, Robert Harvey Whitten, who uniquely combined legal expertise and economic literacy, explained this rationale most effectively: “In the case of unregulated virtual monopoly the force that tends to limit prices charged to the cost of production is lacking. This creates the necessity for public regulation of the rates of charge of public service companies. The aim of public regulation is to accomplish what in other industries is assumed to be accomplished automatically by free competition, that is, to limit the price charged to the normal cost of production” (Whitten 1914, 422).

In the early years of the 20th century, Whitten’s belief in the necessity of railroad regulation was shared by almost the entire profession. Not only the so-called “new schoolers”, who had founded the

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2 On which see Giocoli forthcoming, Chs.3-4.
3 See e.g. Perelman 2006, 70-71. As historian of regulation Thomas McCraw put it: “Railroading influenced American society in the late nineteenth century as only television would in the late twentieth – or as the Roman Catholic Church had influenced the life of medieval Europe” (McCraw 1984, 4-5).
4 The almost, as we argue below, refers to no less than the father of modern railway economics, Arthur Twining Hadley, who remained optimistic about the effectiveness of competition to curb monopoly power in the railroad industry, at least in the long run. At the bottom of this view, which Hadley held from his first major work in 1885 (Hadley 1885, 101-5) until the end (see e.g. Hadley 1928), lay his pioneering intuition about the absence of any necessary relation between the structure of a market and the effectiveness of competition.
AEA in 1885 in open polemic against the classical orthodoxy, subscribed to it. More traditional economists could themselves endorse some limited regulatory activity. In offering the earliest complete analysis of natural monopolies – those, as he wrote, “which are created by circumstances, and not by law” (Mill, *Principles*, II.15.9)\(^5\) – John Stuart Mill had already explained that, in “the case of a road, a canal, or a railway”, which are “always, in a great degree, practical monopolies”, the government, by granting “such monopoly unreservedly to a private company, does much the same thing as if it allowed an individual or an association to levy any tax they chose, for their own benefit, on all the malt produced in the country, or on all the cotton imported into it”. For this reason, he continued, “To make the concession for a limited time is generally justifiable, on the principle which justifies patents for invention: but the state should either reserve to itself a reversionary property in such public works, or should retain, and freely exercise, *the right of fixing a maximum of fares and charges*, and, from time to time, varying that maximum” (ibid., V.11.36; emphasis added). The classical school thus admitted some railroad rate regulation, at least since 1848.

Classical liberals would have little to object either. Free resource mobility – the analytical touchstone of classical economics – was obviously out of question in the case of railways. Hence, the “right of exit” – the possibility of opting out of a certain regulatory framework by moving business somewhere else – offered no defense against misguided regulation. Moreover, protection of the national market against the risk of excessive fragmentation caused by excessive state control over business was a traditional concern for those who wanted to “constitutionalize the free market”. Finally, efficiency required that network industries, such as railways, be managed at a national level. Combining these features together, even classical liberals could recognize a limited form of federal regulation over railways and similar industries as the lesser evil – surely superior, as a regulatory solution, to state-based regulation that would likely undermine both nation-wide networks and the national market.\(^6\)

Alas, railroad regulation was no easy task. During the Gilded Age, the problem had at least two facets: how should the railroads be regulated and who, between the states or the federal government, should regulate them. The latter was as delicate as the former – possibly more, in that it touched the constitutionally sensible issue of the division of power between Washington and the states. The stakes

\(^5\) “There are many cases in which the agency, of whatever nature, by which a service is performed, is certain, from the nature of the case, to be virtually single; in which a practical monopoly, with all the power it confers of taxing the community, cannot be prevented from existing” (Mill, *Principles*, V.11.36). On Mill’s analysis of natural monopoly, see Mosca 2008.

\(^6\) See Epstein 2014, 152-3.
were so high, both economically and constitutionally, that the jurisprudential answers given to both prongs of the railroad regulation problem shaped all the other areas of regulatory activity in the US.

Given the prevailing views and the subject’s importance, Meyer was aware that his argument against railroad regulation and the pending bill, and in defense of railroads’ rate-setting freedom, would probably meet strong opposition from the audience at the 1905 Meeting. Still, he felt confident enough to propose it, if only because he could invoke in defense two of the discipline’s leaders. His analysis of the regulatory problem – in particular of the most controversial issue of all, railway rate discrimination – would in fact track that of Arthur Twining Hadley and Frank William Taussig. Beyond relying on the best available economic theory (viz., newly forged neoclassical micro), his essay cleverly blended it with legal reasoning, in order to ground his policy conclusion on rigorous juridical and efficiency basis: a brilliant display of law and economics, had the term already been coined. Yet, neither the appeal to authority nor the use of the most up-to-date analytical tools could rescue Meyer’s career after he spoke. Simply, railroad regulation was not a matter of applying correct economics. It was rather an issue of bending economic analysis to achieve pre-defined political goals.

The paper builds on Meyer’s sad tale to review the pre-1906 American debate on railroad rate regulation. My goal is to show how a few economists had at the time already embraced the gist of what would later become law and economics, but also how the majority of the discipline, as well as the public opinion, rejected this approach and, with it, sound economic analysis. The next section gives a few information about the origin of the railroad regulation problem. Sections 3-4 present the natural monopoly and federalist sides of the issue. In §§5-6 I examine some of the evils allegedly caused by railways’ practices and a possible solution, pooling. Sections 7-8 cover the worst such evil, rate discrimination, and the pro-efficiency explanation of the practice given by Hadley and Taussig. Section 9 deals with Meyer’s paper at the AEA and the furious reactions it triggered. Section 10 concludes, showing how the episode is also illustrative of the wider problem of preserving academic freedom.

§2. The origins of railroad regulation

The free play of market forces would benefit society as a whole – that was one of the main messages of classical political economy. This particular message was supported by a theoretical apparatus where perfect capital mobility and the profit equalization theorem occupied center stage. The economics of the railroad industry presented post-Civil War Americans with a wholly different scenario, one where,
because of the enormous amount of fixed capital required, firms could not easily enter and exit the market, while competition led active firms towards either financial ruin or absolute monopoly. The underlying assumptions and fundamental theorems of classical economics simply made no sense in the railroad industry, or so it seemed. “The railway system is not one which is amenable to the laws of supply and demand”, Charles Francis Adams observed. “It is an undisputed law of railway economics that the cost of movement is in direct inverse ratio to the amount moved”. When scale economies where sufficiently large, competition simply did not apply. The inverse relation between cost and traffic pointed to “a conclusion which is at the basis of the whole transportation problem: competition and the cheapest possible transportation are wholly incompatible” (Adams 1870, 233-4; original emphasis).

Adams was under many respects the founder of modern regulation. He realized from the beginning that a general view of the railroad problem was necessary in order to pursue that very public interest competitive forces were unable to safeguard. Under his decade-long leadership (1869-79), the Massachusetts Board of Railroad Commissioners experimented a new approach that aimed at reconciling the interests of all the parties involved – railroad owners, customers, workers and local communities. In particular, Adams had a clear understanding of two basic facts. First, that the development of an efficient railway network was essential to promote public welfare – even more essential than, say, moderate transportation rates – and that the right incentives had to be furnished to guarantee the necessary level and quality of investments in the business. Second, that the usual methods by which this result had been pursued in the past had failed. Neither unbridled competition, nor direct public ownership, nor the free exercise of monopoly power could work in the railroad case.

Huge scale economies of course meant that complete monopoly was the best way to achieve “the cheapest possible transportation”, but that solution was unacceptable to Americans, who traditionally loathed the privilege associated with monopoly, and even more so in the case of so crucial an industry like railways. Placing limits in the railroads’ special charters was of no avail either, Adams observed. Apart from the lack of effective enforcement of charter provisions, even the most frequently used restraints, i.e., profit ceilings, had been ineffective, if not deleterious. It was very easy to circumvent them (by, say, stock watering); worse, they had reduced the railroads’ incentive to invest in the expansion and improvement of service. Other solutions worked no better. Public ownership was disqualified on practical grounds: public authorities lacked the ability to manage complex businesses such as railroads. As to free competition, it had been the option embraced by several states. Following

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7 See McCraw 1984, 7-44.
8 See McCraw 1984, 10-15.
the classical recipe, legislators had openly encouraged entry in the railroad business. Unfortunately, the
dismal record of bankruptcies, outstanding debt and price wars showed that, in the light of the
industry’s peculiar economics, having new railroads to compete with existing ones was simply
nonsense. As Michigan economist and ICC statistician Henry Carter Adams (no relation to Charles)
would proclaim two decades later: “where the law of increasing returns works with any degree of
intensity, the principle of free competition is powerless to exercise a healthy regulating influence”
(Adams HC 1887, 60).

The Adams of Massachusetts conceived of only one solution: the creation of a state railroad
commission composed of industry specialists. The hiatus between public and private interests in so
complex an industry required special expertise to be closed. Legislators could never raise to the task, if
only because their terms in office were brief and uncertain. Intelligent regulation could only be
implemented by making this special expertise a permanent part of government, detached from electoral
contingencies: “Work hitherto badly done, spasmodically done, superficially done, ignorantly done,
and too often corruptly done by temporary and irresponsible legislative committees, is in future to be
reduced to order and science by the labors of permanent bureaus, and placed by them before
legislatures for intelligent action” (Adams 1868, 18; emphasis added).

Adams’s approach at the Massachusetts Commission has been aptly defined “regulation by
publication” (McCraw 1984, 23). Lacking any real power beyond that of requiring information from
railroad corporations, he tried to apply “order and science” to bend both the industry and state policy
towards a more rational approach to the subject. Such an approach, in his views, coincided with the
general goal of promoting public welfare via a stable and efficient system of railroad transportation.
Informed persuasion was the Commission’s main tool. In the case of rate regulation, this boiled down
to three broad premises: that scientific precision in rate setting was impossible to achieve; that the
pricing function was, with good reasons, better be left to corporate managers; that railroad rates were
the outcome of the peculiar intermingling of competition and monopoly that characterized the industry
(ibid., 31). The key task for the Commission was to educate both the corporations and the public in the
basic principles of railroad economics, including the natural monopoly character of the business and
the fact that some consolidation was actually inevitable – indeed, desirable on efficiency grounds.

Rate regulation had therefore to be addressed towards the functional goal of systemic efficiency. The
latter should be achieved trying to avoid recourse to courts, whose constitutional concerns would
inevitably interfere with the grand goals of railroad policy, but also rejecting the use of “flat, across-
the-board statutory rate[s]” (ibid., 34), which would clash with the intricacies and needs of railroad
management. It was, in short, a case-by-case approach to regulation, driven by the few principles of railroad economics Adams had managed to grasp by so early a date. Chief among them was the idea that regulators should exploit market forces, rather than fight them, in order to provide regulated businesses with the right incentives (ibid., 39). This, together with the notion that no ideal pattern of regulated rates existed, were Adams’s key messages to future regulatory endeavors – messages that even transcended the limits of his own analysis, which for instance led him to promote a 1871 Massachusetts statute prohibiting rate discrimination between short-haul and long-haul services. It would not take long for some smarter economists to understand that even this kind of seemingly unjust discrimination had strong efficiency reasons.

§3. Railroads as natural monopolies – or just “particular” ones?

After the 1880s, every American economist became aware of the peculiarities of the railway industry. The other Adam, Henry Carter, was archetypal of the almost universal recognition that competition could not bestow its wonders when powerful scale effects existed. “The capacity of the old road”, he wrote, “may be extended at a cost comparatively less than would be required by the building of a new road; and, so decided are the advantages of an established business over one struggling into existence, that it is fair to regard the old road as practically free, for a long time at least, from the competitive interference of new capital” (Adams HC 1887, 61-2). Railroads were not unique in this feature. He acknowledged that, too: “There are many other lines of business which conform to the principle of increasing returns, and for that reason come under the rule of centralized control. Such businesses are by nature monopolies. We certainly deceive ourselves in believing that competition can secure for the public fair treatment in such cases, or that laws compelling competition can ever be enforced” (ibid., 64; emphasis added).

Unsurprisingly, natural monopolies topped the economists’ agenda. This was not an absolute novelty. John Stuart Mill had already explained, about four decades before, that natural monopoly could well be accommodated within the classical model. His analysis encompassed those monopolies resulting from the technological characteristics of the production process itself – railways being the most obvious example. “When, therefore, a business of real public importance can only be carried on advantageously upon so large a scale as to render the liberty of competition almost illusory”, he remarked having in mind the railway case, “it is an unthrifty dispensation of the public resources that several costly sets of
arrangements should be kept up for the purpose of rendering to the community this one service. It is much better to treat it at once as a public function” (Principles, I.9.24). While Mill suggested that this kind of public utilities be owned and managed by public authorities, possibly in the form of a decentralized service performed at local level, American economists could still invoke his authority to justify alternative solutions to the natural monopoly problem – first and foremost, rate regulation – without trespassing the bounds of classical orthodoxy. Not a bad idea, politically speaking, given the delicate nature of the railroad problem.

However, not everyone recognized that railroads constituted a natural monopoly. No less than the most famous railways economist of the period, Yale professor Arthur Twining Hadley, denied that. Perfectly aware of the decreasing pattern of railroad costs, Hadley did not believe that this feature automatically defined them as natural monopolies.\(^9\) Were this the case, he argued, one would observe much merger activity and a dearth of new entrants. Neither was observed, though, for the simple reason that railroad costs were not perpetually declining.

Hadley conceived of railroads as “particular monopolies”, rather than natural ones, characterized by peculiar short-run problems, due to their high fixed costs and limited ability to discriminate. As a consequence of these peculiarities, railroad rates would always oscillate between the minimum of short run variable cost (say, during price wars) and the maximum monopoly level. Most significantly, Hadley was among the earliest economists to recognize that the structure of the market was unrelated to the effectiveness of competition. Competition was to him both an institution (i.e., a method to set prices different from custom, ethics, politics, etc.) and a process: in this, his analysis lay fully within classical political economy.\(^10\) Accordingly, he thought the market power of railroads and other “particular monopolies” was always constrained by competitive pressure, in the form of potential competition, the rise of substitute products or, at the very least, the necessity to keep alive the local shippers who were the monopolist’s best customers.\(^11\)

Though minoritarian, Hadley’s combination of a correct analysis of scale effects with a belief in the perennial power of competitive forces was not unique. Even when substantial evidence indicated that competition brought dismal results, as in the railroad case, other economists continued to assert their faith in the classical model. For example, in 1884 Gerrit L. Lansing argued against regulation of railroad rates on account of the ability of competitive forces to keep the monopoly problem under control. In the purest classical spirit, Lansing believed capital flows would always guarantee the long-

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10 See Morgan 1993, 572-3; Giocoli forthcoming, Ch.4.
11 See e.g. Hadley 1896, 165.
run equalization of returns even in the railway case, both intra- and inter-industry (Lansing 1884, 463). Two decades later, Meyer would proclaim in his presentation at the AEA meeting that “upon examination [railway rates] prove to be not arbitrary but compelled, that is, fixed by competition between the railways and the waterways, the competition of rival railways, and, most frequently, by the competition between rival producing centers and distributing points” (Meyer 1906, 61). The upshot of Meyer’s analysis was clear: if competitive processes were still effectively setting railroad rates, no reason existed for extending regulatory powers upon the latter.

Who was right? The majority of economists invoking some form of rate regulation in the spirit of Mill’s analysis of natural monopolies or those minoritarian, albeit authoritative, voices still reposing their faith in the long-run equilibrating effect of competition? Was the heuristic power of classical economics still of any use or should classical analysis be replaced by new ideas, more attuned to modern industrial conditions? And what about the belief in the desirable properties of the classical “system of natural liberty”, as Adam Smith called it? Could the Smithian system still represent a reference point in a world of big business and enormous capital investments?

§4. Regulation as a problem of federalism

In an outstanding 1988 essay published in the *Yale Law Journal*, law historian Herbert Hovenkamp has explained how the uncertainty surrounding railroad economics at the end of the 19th century also affected the history of regulatory efforts in the US. In particular, Hovenkamp’s thesis is that the less-than-complete agreement about the correct theory of railroad markets and behavior had the unfortunate effect of making regulators blind to the key feature of the American railroad system, namely, its being a network that simultaneously pertained to two markets: a market of short-haul, generally intrastate, services and a market of long-haul, generally interstate, services (Hovenkamp 1988, 1018-19).

The two markets gave rise to regulatory problems of very different nature. Hovenkamp summed them up in these terms: “In the 1880s, states had jurisdiction only over intrastate routes, where rates tended to be very high. On the other hand, the federal government had jurisdiction only over interstate routes, where competition had driven rates on most routes so low that they were unremunerative. As a result,

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12 A life-long officer at the Southern Pacific Railroad Co., Lansing was, like Hadley, quite optimist about the effectiveness of market forces, but lacked the Yale professor’s analytical insight. Thus, his classical conclusion that “The best possible results to all will follow where there is the freest operation of the natural forces of competition”, with no “interference”, “restriction” or “injury” by the state (Lansing 1884, 475), was based on a simple faith in the virtues of capital mobility.
the problem Congress faced in the final decades of the 19th century was not high railroad rates but rather the potential collapse of the national railroad system as a result of rate wars or overzealous state regulation” (ibid., 1026). Devoid of adequate economic tools to understand, let alone handle, this complex dichotomy, American regulators of the Gilded Age could only perform poorly. The only way to take hold of these problems together, Hovenkamp claimed, is by conceiving of the late 19th-century regulation of railroads as a fundamental problem of federalism (ibid., 1020). Yet, very few economists of the time were up to the analytical challenges raised by the dichotomic nature of railroad competition within a federalist institutional framework.

The economic problem was intermingled with the constitutional problem. Classical competition seemed not to work properly in the presence of massive investments in fixed capital. Some railroads earned permanent monopoly profits at the same time that others were driven into bankruptcy by cut-throat competition. None of these phenomena could be prima facie reconciled with classical market theory. Their consequences being clearly undesirable for society, some kind of sovereign intervention seemed necessary to counter them. Unfortunately, Hovenkamp complained (ibid., 1035), prevailing constitutional theory hindered the proper kind of intervention.

The American railway system – both intrastate and interstate – had developed largely by means of state initiatives and almost exclusively under state control. However, under the existing theory of federalism, the states could only control intrastate transactions. Likewise, the federal government had exclusive control over interstate movement, but not, in general, over transactions within a single state that merely affected interstate commerce. In short, orthodox federalism could only encompass a regulatory model that gave neither the states nor the federal government effective control over what, economically speaking, were spillover effects between intra- and interstate networks. This despite the latter being an essential – and seemingly obvious – element of any railway system.13

The great jurist – and future first ICC chairman – Thomas McIntyre Cooley was among the few who had a clear grasp of where the core of the regulation problem resided. As he wrote of railroad competition: “What is a fatal impediment to its control by law is, that the States and the nation have, in respect to it, a divided power; and while it is for the interest of the nation at large to encourage the competition which favors long hauls, it is for the interest of localities to make competition most active in short hauls” (Cooley 1883, 215). He explained the troubles that could arise with an example that, as we learn below, would occupy a central position in the economists’ reflections: “State is therefore likely to favor legislation which compels proportional charges, or some thing near such charges, for all

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13 Hovenkamp 1988c, 1033-4.
distances; but this, if it could be adopted and enforced, would preclude the great through lines of New York and Pennsylvania from competing at Chicago, St. Paul, and St. Louis in the grain-carrying trade of the North west, and would reduce such links as are wholly within a State, to the condition of mere local roads, compelled to make high charges or go into bankruptcy” (ibid.).

Cooley’s example was not just hypothetical. State regulations – especially when they interfered with the twin nature of the railway service – had actually contributed to the railroads’ financial troubles. Yet, railway transportation was too strategic for the nation’s economic development to be allowed to collapse. A process of federal regulation began in the late 1880s to take regulatory authority away from the individual states and ensure that a more systemic view be adopted. Cooley anticipated the innovation: “But whenever State power should thus be exerted prejudicially, it can hardly be doubted that Congress would interfere, under its authority over inter State commerce, in aid of those competitive forces which silently but steadily have forced down the charges for railway service” (ibid., 215-6). The 1887 Interstate Commerce Act – which forbade rebating, pooling, and, with some exceptions, rate discrimination; prescribed that rates be “just and reasonable”; and empowered the ICC to determine reasonableness – was the first step in this direction. Yet, as noted by Hovenkamp, two obstacles hindered the centralization process: the extant theory of federalism driving judicial review and the lack of proper understanding of railway economics.

§5. The evils of railroads: extortion and instability

In a lengthy 1906 essay commissioned by the AEA, Michigan economist and former ICC member Harrison Smalley listed three major kinds of abuses committed by railroad managers as the motivation behind the rise of state and federal regulation, as well as for the extensive case law dealing with it. The three “evils” of railroads – as he called them (Smalley 1906, 5-11) – were rate discrimination, monopolistic extortion, and instability of rates. The latter two captured the above-mentioned failure of classical competition in the presence of massive capital investments.

“The imposition of exorbitant charges is in large measure a consequence of monopolistic elements in the railroad industry”, Smalley wrote to explain the railroad’s extortionate power. “Even potential competition”, he continued, “almost wholly fails as a restraining force, because of the immense cost of duplicating a railroad’s plant and equipment, and because of the long time which the process of duplication must consume. The railroads are consequently free, in the absence of government control,
to fix rates on the monopoly principle of maximum net return” (ibid., 8). Many states followed the classical playbook and believed competition could provide a solution to this first evil. State legislatures attempted to eliminate extortionate rates by promoting the creation of more railroads. Accordingly, since the mid-19th century the majority of railroad charters contained no monopoly provisions. Railroad routes, particularly along longer hauls, became increasingly competitive in the three decades after the Civil War. The eventual consequences for the railroads were obviously disastrous.

Under competitive conditions, costs did not determine rates, but rates determined what part of total costs a railroad could actually cover. Economic logic made any price above short-run marginal cost “profitable”, in the sense that it covered the direct costs of transportation and contributed something to the amortization of the fixed costs. As in many other cases, the theoretical argument explaining this logic came from Hadley.  

In his 1885 masterpiece, Railroad Transportation, Hadley had criticized David Ricardo’s analytical notion of competition for its reliance upon the classical hypothesis of perfect capital mobility among different businesses. A pillar of classical economics, the Ricardian assumption dictated that supra-competitive profits would quickly attract new capital in a business, while whenever price fell below cost production would immediately stop and capital would exit. The assumption, Hadley remarked, likely stemmed from Ricardo’s experience as a banker, which had led him “to treat capital as something not fixed, but freely circulating, which could be at once withdrawn from a business when it became unprofitable”. The problem was that “[i]n the case of a factory this is by no means true; in the case of a railroad it is absolutely untrue (Hadley 1885, 41).

The failure of Ricardo’s assumption in the railway industry rested on objective grounds: “A railroad differs from many other businesses in the existence of a large permanent investment, which can be used for one narrowly defined purpose, and for no other. The capital, once invested, must remain. It is worth little for any other purpose than the one in question. A railroad cannot contract its capital merely because it does not pay; nor can it be paralleled at short notice when it happens to pay remarkably well. In these respects it differs quite sharply from a bank or store; and, to a certain extent, from a factory” (ibid., 40). Analytically speaking, the consequences were huge: “This is why it is so often said that the ordinary laws of political economy do not operate in the case of railroads” (ibid., 41, emphasis added). In the railroad case, any rate larger than average variable cost would help defray

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15 “Ricardo’s theory was based upon the assumption that when payment fell below cost of service active competition would cease” (Hadley 1885, 72).
16 By “the ordinary laws of political economy”, Hadley obviously meant classical economics.
overhead; hence, it would result in a smaller loss than Ricardo-style shutdown. As a consequence of rational loss-minimization, capital would not exit the industry and production would go on.

While he emphasized the role of loss-minimization behavior in any industry with large fixed costs, Hadley did not believe that the latter automatically created a natural monopoly à la Mill – that is, a situation demanding some form of regulation or public ownership. Instability, rather than the impossibility of competition, was to his view the main trait of “particular monopolies”, like those in the railroad industry. Rates permanently oscillated from a high to a low extreme. At the high extreme, monopoly railroads would make huge profits, causing in due time the entry of new capital. The latter would in turn trigger a price war, with rates pushed down to their lowest level, which meant negative profits and eventual exit and a new monopoly. The industry thus lacked any tendency towards stable rates and normal profits; on the contrary, it exhibited an innate propensity to ruinous competition. “[Ricardo’s] theory fails, because”, Hadley proclaimed, “far below the point where it pays to do your own business, it pays to steal business from another man. The influx of new capital will cease; but the fight will go on, either until the old investment and machinery are worn out, or until a pool of some sort is arranged” (ibid., 72).\(^\text{17}\) During these frequent bursts of cut-throat competition, even the limited margin over variable cost, guaranteed by loss-minimization behavior, disappeared. The rates’ lowest extreme was indeed barely sufficient to cover operating expenses, but wholly inadequate to repay a single bit of the fixed costs. As a consequence, railroads were unable to service the (usually huge) long-term debts that burdened their financial structure.

Experience showed that entry could even generate rates higher than before. Because of the doubling or trebling of fixed costs, the price of shipping a package could indeed rise despite the fact that competing railroads still lost money. Hence, competition was not only bad for the railroads, but often bad for costumers too.\(^\text{18}\) While they benefited in the short run from very low rates, costumers might be called to endure the long run outcomes of such “forced” competition, as they would eventually bear the cost of needless additional capacity. Under this respect, not even price regulation would help them much, because regulators had to set rates at a level sufficient to guarantee a reasonable return on capital to each railroad; rates would be higher when two or more railroads existed rather than only one.

Price wars begot the second of Smalley’s evils, the instability of rates Hadley had already complained of. A theme that had come especially to the fore in the earliest cartel cases under the Sherman Act,\(^\text{19}\) unstable rates damaged industrial interests almost as much as high rates. “The industrial interests of

\(^{17}\) On Hadley’s views about railroad pools, see below, §6.

\(^{18}\) See Hovenkamp 1988, 1037.

\(^{19}\) See Giocoli forthcoming, Chs.9-10.
every community demand that railroad charges shall be stable”, Smalley observed, “The transportation factor is an essential one in all industries, and accordingly an element of transportation expense is present in the cost of practically every commodity. For railroad rates, therefore, to be unstable is to introduce an element of serious uncertainty into all business” (Smalley 1906, 9).

That railroad cartels featured prominently in early antitrust case law was not casual. Cooperation rather than rivalry among railroads was the easiest solution to cure both evils, extortion and instability. The well known peculiarities of railroad competition actually led many US economists in the 1880s to deem combinations inevitable in that industry. The privileged kind of cooperation was not fully-fledged cartelization, but rather pooling, a looser form of agreement that divided traffic and income among participating railroads. As usual, Hadley saw it most lucidly.

§6. Pro-efficiency pooling?

His analysis of “particular monopolies” had led Hadley to conclude that railway rates would continuously oscillate between the level of short run variable cost and monopoly. Yet, unwelcome as they might be, price instability, and the related destructive effects of competition, did not necessarily require government intervention. A market-based solution existed, in the form of some kind of agreements between competing railroads. “There is but one way to prevent” the undesirable outcomes of competition, Hadley wrote. “If competition is ruinous to all parties, all parties must stop competing. If it finds no natural limit, it must be artificially limited; it must end in combination” (Hadley 1885, 74). As he explained: “This agreement may take any one of four forms. 1. Agreement to maintain rates. 2. To divide the field. 3. To divide the traffic. 4. To divide the earnings. The last three are commonly known as pools” (ibid.).

The reason pools were preferred to cartels – that is, straightforward price-fixing agreements – lay in the latter’s extreme fragility. Once again, the logic of railway economics drove this outcome. The rate set by a cartel was clearly designed to cover both fixed and variable costs of each participating railroad. It was therefore higher than short-run marginal cost, namely, the minimum acceptable threshold for each company. The temptation for each cartel member to shave the agreed rate to get more business,
while still partially contributing to cover its fixed expenses, proved irresistible. Obeying the cartel was not equilibrium behavior, a modern economist would say.20

Hadley knew this phenomenon all too well: “The first [form of agreement] is the simplest, but least effective”. Echoing a famous passage in the Wealth of Nations,21 he noted: “There is scarcely an organized industry where the dealers do not meet and settle upon a schedule of rates and discounts, agreeing that no one shall sell below these prices”. Yet, he added: “Such agreements are rarely kept. It is for the interest of all that rates in general should be maintained; but it is for the interest of each concern to secure business for itself by not quite maintaining them. This constitutes a great temptation to depart from schedule prices; a temptation all the stronger because it is so easy to violate the agreement indirectly, and so hard to detect any such violation. The result is apt to be a system of underhand competition, worse in many respects than the open competition which existed before there was any agreement at all” (ibid., 74-5).22 Railroads then had recourse to the other forms of agreement, whose varying advantages and costs (especially, policing ones) Hadley described in his works. The biggest such gain was, to his view, the stability of rates. At the same time, actual and potential competition guaranteed that the monopoly power of the pool be always limited, thereby effectively solving the extortion evil.

In the end, Hadley had a fairly positive view of pooling, which he saw as a market-based solution to the peculiar problems of the railroad industry – i.e., a solution preserving a role for market forces and voluntary behavior, with no outside coercion by the law. As he put it: “Combination does not produce arbitrary results any more than competition produces uniformly beneficent ones. […] It is usually far-sighted policy for a combination to put its rates so low as not to tempt new capital too rapidly into the field. If that lesson is learned, the public gets the benefits of competition without its disadvantages” (ibid., 76-7). The policy prescription was clear enough: “Unluckily, we place these combinations outside of the protection of the law, and by giving them this precarious and almost illegal character we tempt them to seek present gain even at the sacrifice of their own future interests. We regard them, and

20 Still, railroads made recourse to elaborate internal enforcement devices to ensure conformity to cartelized rates. For an example of these devices, see Ulen 1980, 308.
21 “People of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices” (Smith, Wealth of Nations, I.10.82). One might indeed argue that the forced competition state legislatures had somehow imposed to railroad markets was an instance of the danger Smith envisioned in the rest of the passage: “But though the law cannot hinder people of the same trade from sometimes assembling together, it ought to do nothing to facilitate such assemblies; much less to render them necessary” (ibid.).
22 The Elkins Act of 1903, which forbade rebating and required railroads to file their rates with the ICC, made cartel arrangements more stable. Once filed, the rates became mandatory, and railroads were forbidden to deviate from them. Since joint rate-making was legal under the Act, its overall effect was to make cheating more difficult. See Hovenkamp 1988, 1067.
we let them regard themselves, as a means of momentary profit and speculation, instead of recognizing them as responsible public agencies of lasting influence and importance” (ibid., 77). Railroad pooling looked like the only way the stability of so crucial an industry could be reconciled with the core ingredient of the classical view of economic freedom, namely, freedom from government coercion.

Hadley wrote these words in 1885, that is, two years before the enactment of the Interstate Commerce Act that formally prohibited railroad pooling. As we said, he was not the only economist of the time who supported pooling. Many others shared his views, though most did so on the grounds of the standard, natural monopoly argument. Their voices got louder in the wake of the anti-pooling provision. For example, Henry Carter Adams wrote: “If it is for the interest of men to combine no law can make them compete. For all industries, therefore, which conform to the principle of increasing returns, the only question at issue is, whether society shall support an irresponsible, extra-legal monopoly, or a monopoly established by law and managed in the interest of the public. In this latter way may the benefits of organization in the form of monopoly be secured to the people, and in no other” (Adams HC 1887, 64). Pooling found supporters throughout the economists' spectrum, politically speaking.

Columbia economist Edwin Robert Anderson Seligman – one of the brightest economic minds of the Gilded Age and a leader of the “new school” progressives – devoted most of a two-part, 85-page essay to demolish the rationale of the Act’s anti-pooling provision. He did not hold his punches, both against Congress and, perhaps even more, against those fellow economists who were still after the competitive ideal of classical theory. “We must recognize the monopolies as existing facts”, he wrote, “but hold them under control. We have in general gone on the opposite theory. We have believed in the universal existence and beneficence of free competition; we have willfully blinded our eyes to what was taking place about us; and to-day we wake up only to recognize the existence of these gigantic combinations. To legislate against them and fall back again on the specific of free competition would be absolutely futile. Competition has had its day and has proved ineffective. Let us be bold enough to look the facts straight in the face and not shrink from the logical conclusions of our premises. Recognize the combinations but regulate them” (Seligman 1887, 374).

Faithful to the mantra of the German Historical School that “experience is no less convincing than theory”, Seligman went on for several pages describing the experience with pooling of American as well as European railroads. The conclusion was unambiguous: “All the European countries, therefore, inculcate the same lesson. Unjust discriminations and especially preferential rates are found in inverse

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23 Seligman 1887, 388. Like many of his contemporaries, Seligman had completed his economics training in Germany. On Seligman, see Dorfman 1949, 254-6; Asso & Fiorito 2006.
ratio to the pools. Where the pools are legalized and most effective, as in Germany and Belgium, the abuses are least; where the pools are less frequent, as in England, the abuses are greater; where the pools are rare and ineffective, as in Holland, the abuses are scandalous” (ibid., 388). Economic laws made the trend towards pooling unstoppable: “Nothing will be gained by the attempt to stop pools. We may prohibit them, but cannot prevent them. And if they could be prevented, they would simply disappear for a time; the causes which rendered their existence necessary would reassert themselves, and in the long run prove invincible, with the only result that in the mean time the country would have been exposed to an intensification of the very evils which it was desired to suppress” (ibid.).

Perhaps the most significant page of Seligman’s essay came when he proposed a new argument in favor of the pools. To his view, pooling agreements actually stimulated – rather than stifled – competition among railroads. They did so by redirecting companies away from cutthroat pricing and towards more virtuous forms of non-price competition, like quality in service. The passage deserves to be quoted in full, because it shows better than any other the efforts many late 19th-century economists made to reconcile their deep faith in competition and distrust of state interferences with their awareness that the theoretical underpinnings of both this faith and this distrust did not apply anymore. The struggle, in short, to preserve classical political economy while abandoning classical economics.

“One misconception more fatal than any yet discussed still remains”, Seligman wrote. “It is commonly supposed that pooling entirely prevents competition. This is a mistake. Pooling maintains the advantages of a healthy competition and at the same time prevents the dangers of an utterly unrestricted or ‘cut-throat’ competition. The mere agreement to divide traffic or earnings in certain percentages does not put a stop to all competition. Each of the various roads will still attempt to procure as much business as can possibly be obtained in a fair and open manner. If any line while maintaining the published rates is yet enabled to run above its allotted percentage, this surplus will justify the railway in demanding an increased percentage in the new allotment that is to be made at the expiration of the monthly or yearly pooling arrangement. The incentive to fair and healthy competition is not removed; each line will endeavor to vie with its rival in accommodations and facilities. But the temptation to take unfair advantages of its rivals is diminished, for an increase of traffic due to rebates or violations of the pooling agreement manifestly cannot justify a claim for increased percentages. A successful pool prevents railway wars with the accompanying discriminations, but does not prevent healthy emulation to attract business. It simply raises the plane of competition to a higher level” (ibid., 389; emphasis added). In the case of railroads, price competition was harmful, but other, “superior” forms of

24 Though not necessarily in price competition, as the previous quotes showed.
competition did exist; public authorities should simply let railroad companies free to discover and exploit them. Regardless of the distance a “new schooler” like Seligman established between his views and those of the old guard, passages like this confirm that, as far as the essence of competition was concerned, he still subscribed to the classical idea of competition as an open-ended, dynamic process – a rivalry in service, not a state.

Even jurists recognized that pooling was indeed desirable and that the law should not prohibit it. Remarkably, these were the 1905 views of no less than Martin Augustine Knapp, the then-chairman of the ICC.\(^{25}\) The paper he delivered at the 1904 meeting of the AEA was, quite understandably, an eulogy of rate regulation and the Commission’s activity. Yet, after having complained, like many economists had done, that “[t]he evils which have attended the growth and operation of our railway systems, and which have given rise to so much public indignation, have their origin and inducement for the most part in the competition of carriers which our legislative policy seeks to enforce”,\(^{26}\) Knapp manifested a frank preference for pooling: “I advocate the legal sanction of associated action by rival carriers in the performance of their public functions. This is the one sensible and practicable plan, adapted to existing conditions and suited to the requirements of a public service. Such a policy would promote and invite the conduct of railway transportation in the manner most beneficial to the people and the railroads alike” (Knapp 1905, 29-30). From the vantage, and authoritative, point of his high office, Chairman Knapp could then declare that: “The true theory of public regulation, therefore, the theory which is best calculated to produce useful results, is to allow the railways to unite with each other in the discharge of their public duties, thereby making it feasible and for their interest to conform, in all cases to their published schedules, and to invest the regulating body with authority, after investigation of complaints upon due notice and hearing, to condemn the rates found to be actually or relatively unreasonable and to pre- scribe, subject to judicial review, a substituted standard to be thereafter observed” (ibid., 30). Knapp sounded here much like the Charles Adams of almost four decades before. They both envisioned regulation as a mere support to free market behavior. They both believed regulators should only intervene when the regulated subjects abused of the freedom to self-organize their business enlightened legislators had – or should have – accorded them. Even in the seemingly lost case of railways, the distance separating these views from the Smithian version of classical political economy was not so great.

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\(^{25}\) Knapp’s spell at the ICC, first as a member (since 1891) and then as chairman (since 1898) lasted until 1910, when he became a federal judge at the Court of Appeals of the Second Circuit.

\(^{26}\) “A mistaken and mischievous policy”, he called it (Knapp 1905, 29).
Knapp’s views were not idiosyncratic. Notwithstanding the express anti-pooling provisions of the Interstate Commerce Act, the ICC had since the start been more sympathetic to the railroads on this issue. Accordingly, it had encouraged a certain amount of controlled pooling throughout the 1890s. While the ICC’s overall record is very controversial – with critics from opposing fields accusing the Commission of being, alternatively, excessively friendly or excessively hostile to railroad companies – there is no doubt that on strictly allocative efficiency grounds its performance was mixed at best. On one hand, the ICC recognized that pooling was necessary to preserve the railroads’ financial integrity and, even more importantly, the lawfulness of some coordination – all the more indispensable given the interconnected nature of large part of the railway business.27 On the other, especially as far as the rate-assessment part of its activity was concerned, the ICC’s policies often prevented the best allocation of transport services, by letting fairness concerns prevail over efficiency ones (McCraw 1984, 63-4). Once again, this was due to a lack of proper understanding of the economics of rate-making.

The “protection” of the ICC and the favor of a large and influential part of the economists’ and jurists’ community did not suffice to preserve the legality of pooling. The provision in the 1887 Act spoke clearly against this kind of agreements.28 Most commentators, then and now, agree that the Act answered the needs of both shippers – who were obviously hostile to pooling – and railroads. The latter, at least according to some accounts, had invoked the intervention of Congress in order to curb the excesses of state regulations, on the one side, and to obtain some legal sanction to that rate stability that cartels and other private arrangements were unable to guarantee, on the other.29 What is certain is that all the debate about pooling ended in 1897, when the Court applied the Sherman Act to declare all railroad cartels and pools unlawful.30

Seligman had been a good prophet a decade before. “The abolition of pooling would in fact hasten the very result which it is desired to avoid”, he wrote. “Division of the traffic and the earnings” were to his views just penultimate steps “in the progress of combination”. “The final steps”, as he foresaw them, “are lease and absolute consolidation. […] If therefore pools, which still permit competition to a

28 The Fifth Section recited: “That it shall be unlawful for any common carrier subject to the provisions of this act to enter into any contract, agreement, or combination with any other common carrier or carriers for the pooling of freights of different and competing railroads, or to divide between them the aggregate or net proceeds of the earnings of such railroads, or any portion thereof; and in any case of an agreement for the pooling of freights as aforesaid, each day of its continuance shall be deemed a separate offense”.
29 The latter was for instance Hadley’s interpretation of the true motivations behind the Act. The railroads “were tired of fighting, and were glad to make the law for the time being a pretext for the cessation of rate wars. The danger of disobeying the law was greater than the danger of suffering from the cut rates of a rival” (Hadley 1888, 184). For a skeptical view about this interpretation, see Ulen 1980, 308-9.
30 United States v. Trans-Missouri Freight Association, 166 U.S. 290 (1897).
limited degree, be abolished, the process of complete consolidation, which utterly precludes competition, will be accelerated” (Seligman 1887, 389-90). In fact, the Court’s 1897 decision gave further impetus to the great railroad merger movement that had already started in the previous decade and that would eventually transform America’s network of hundreds of small railroads into a half dozen giant systems by the 1920s.31

§7. The third evil: rate discrimination

The third evil identified by Smalley’s 1906 essay was also the worst. Neither monopoly pricing nor rate instability raised so much passion and complaint in American society as the discrimination of railway fares: “In any statement of railroad evils attention is most naturally directed first to unjust discrimination, as the most serious of all” (Smalley 1906, 5). The public opinion’s fury against rate discrimination verged on hysteria. The practice even featured in popular novels – such as Frank Norris’s *The Octopus*32 – as the epitome of the railroads’ rapacious and ruthless attitude towards customers and competitors. Simply said, rate discrimination was the single most important and controversial problem of railroad regulatory policy during the Gilded Age.

Among the various forms of discrimination, the one attracting most attention, and protest, was the so-called short-haul/long-haul discrimination, which occurred when a railroad charged a higher price per mile for a short distance than it did for a long one. Net of the fixed cost of loading and unloading the trains, which obviously explained part of the differential, long- and short-haul rates were often far away from any proportion to actual direct costs of service. As Hovenkamp (1988, 1049-50) remarked, it was not just a matter of short hauls costing proportionally more than long hauls. The loudest complaints arose from the fact that short hauls frequently cost absolutely more than long hauls, even though the short haul was completely contained within the long-haul route. Little surprise that the practice could stimulate the fantasy of talented writers.

Novelists are not always good economists, though. What the American public failed to understand was that competition, rather than cost, determined railway rates. As even ICC chairman Knapp recognized: “The power to compete is the power to discriminate, and it is simply out of the question to have at once the presence of competition and the absence of discrimination. To my mind the legislation

31 For an assessment of the actual impact of the Court’s decision upon what already looked like an irreversible phenomenon, see Hovenkamp 1988, 1042-3.
which decrees that all rates shall be just and reasonable, and declares unlawful every discrimination between individuals or localities, is plainly inconsistent with competitive charges” (Knapp 1905, 29). The full understanding of the rationale of rate discrimination was among the most valuable contributions of the late 19th-century marginalist techniques. Yet again, the new economics did not necessarily entail discarding the core message of classical political economy.

The economic basis for short-haul/long-haul rate discrimination had already emerged before the advent of marginalism.33 Starting from the late 1860s, the argument had been made that railroad lines between distant points were much more competitive than commonly believed precisely because variable costs were so small, almost insignificant. Frequently, competing lines existed that connected the same commercial centers – the main industrial cities – but passed through different points en route. It followed that competition for traffic between the centers was far greater than competition for traffic between the points along the way. This simple empirical observation, that railway lines did not have to be “parallel” in order to compete, lay at the heart of the short-haul/long-haul problem. By the turn of the century, it was well-known that indirect routes between two points might have an economic advantage over direct routes between the same two points, for the simple reason that the railroads stopped at more towns on the longer routes. As a result, companies had more opportunities to fill their cars than they would on the direct route. Again, the fact that the cost of running extra miles was comparatively low, usually lower than that of traveling with less than a full load, was crucial to make the indirect route more profitable than the shorter one.

The other well-established principle was that the portion of fixed costs borne by any class of railroad traffic was price-determined rather than price-determining.34 Whenever no competition existed on a certain route, railroads set a rate high enough to cover both variable and fixed costs. This was typically the case for short-haul rates – that is, for traffic between local points almost always connected by a single, monopolistic railroad. It followed that those fixed costs that were not covered by the rates charged on more competitive, long-haul traffic were repaid by the short-haul rates charged upon monopoly routes. Several observers, including smart ones like Charles Adams,35 concluded that railroads were using their monopolistic short-haul overcharges to cross-subsidize their competitive long-haul expenses. Short-haul shippers seemed therefore unjustly discriminated to the benefit of long-haul ones. Regardless of its efficiency, discrimination would then deserve reproach as a sheer matter of

33 See Hovenkamp 1988, 1050-52.
34 “Railroad profits are to a large extent of the nature of rent rather than interest. They represent excess of market value above operating expenses” (Hadley 1885, 123, fn.1).
justice. Technically speaking, however, no cross-subsidization was involved in the practice, at least as long as long-haul rates exceeded direct operating costs. As always, the implied economics found exhaustive explanation in Hadley.

The 1885 treatise clarified that even the shippers who paid the high local rates actually benefited from the short-haul/long-haul discrimination. “The points where there is no competition”, Hadley conceded, “are made to pay the fixed charges, while the rates for competitive business will little more than pay train and station expenses”. Still, everybody gained. Long-haul shippers enjoyed the benefits of competition, because for the railroads “it is better to have business on those terms than to have it go by the rival route” (Hadley 1885, 114). As to short-haul customers, their gain stemmed from the fact that “the local business at intermediate points is so small that this alone cannot support the road, no matter how low or how high the rates are made. In other words, in order to live at all, the road must secure two different things – the high rates for its local traffic, and the large traffic of the through points which can only be attracted by low rates. If they are to have the road, they must have discrimination” (ibid., 115). The moral of the story was clear: cancel the long-haul traffic and the short-haul customers would have no railway at all to ship their goods. Who was actually subsidizing whom, then?

The same logic held in the case of discrimination based on the nature of the products. Railroads were accused of using artificially high rates on first class goods to subsidize low rates on cheaper goods, where competition was much stronger. With his famous oyster example, Hadley showed that even those who paid high rates on first class goods benefited from the practice. Any rate higher than average variable cost contributed to repay the railroad’s fixed costs, and thus to reduce all other rates. Thus, shippers of first class goods benefited if the railroads also shipped cheap goods at any rate higher than direct operating costs, regardless of whether the rate differential was in any sense justified by differences in cost of service. As in the oyster “all-or-none” case, cheap goods traffic could even be necessary condition for the existence of the first class service. Again, Hadley’s economics showed that discrimination benefited everyone, railroads and shippers.

Analytically, his presentation of the subject was a major step forward in the history of economics. Hadley was the first economist to link the necessary conditions for successful price discrimination – monopoly power and the ability to separate markets – with a simple elasticity specification. In his “Theory of railroad rates” – which he developed in Appendix II of the 1885 book – the relationship between traffic carried and the rate charged was given both a mathematical statement and a

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36 Hadley 1885, 116-8. Cross & Ekelund (1980, 223) call the example “a classic in railway rate theory”.
diagrammatic illustration by way of a traffic demand curve. The basic assumption of his analysis was that railroads are profit-maximizers: “The practical railroad manager has one general principle in this matter. He lowers rates whenever he thinks it will increase net earnings – in other words, as long as it will increase gross earnings faster than it increases operating expenses” (ibid., 261). The principle – which in the Appendix took the form of a differential equation – led the manager to lower rates “until the differential of gross earnings on a particular line of traffic ceases to be greater than (i.e., becomes equal to) the differential of the operating expenses” (ibid.). Under the implicit assumption of elastic demand, Hadley applied the marginalist principle to conclude, both in words and in formulas, that railroads would seek new traffic as long as the increase in revenues brought about by additional traffic exceeded the increase in cost (ibid., 263).

Hadley presented a *competitive* theory of rate discrimination, in that he explained the phenomenon as an essential part of the competitive process in the railroad industry. The railroads’ financial health, their ability to expand service to new markets and lower the average price of transport (thanks to market expansion under decreasing costs), even the possibility itself of their supplying any service at all – everything depended upon the adoption of well-designed discriminatory practices. This was the sense of his statement that “there are many instances where the railroads are not responsible for [local discriminations]”: it was the inexorable logic of competition (“the natural causes”, as he called them) that led to these practices. Accordingly, he explained that “it is worse than useless to try to prohibit them by law. We are not arguing in favor of this system, but against the popular remedy – a statute” (ibid., 114-5). As he wrote in a comment to the Interstate Commerce Act: “There is not in American railroad practice a collision of interest between shippers as a class and railroad owners as a class. Laws based on the supposition that there was, have done much more harm than good” (Hadley 1888, 181).

More specifically, Hadley’s hostility against rate regulation of the kind envisioned by the 1887 Act, rested on two reasons. He was worried, first, that regulation without the possibility of pooling would fail to produce rate stability, and, second and more importantly, that the ICC or any other regulator could cause massive allocative distortions – all the bigger where regulation to be driven by the “cost of service” principle, that is, the notion of charging for each transportation its actual cost. “There was

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38 Hadley further noted that “Each class of articles has a curve of its own” (Hadley 1885, 263.). The remark entails that his theory described what we modernly call third-degree price discrimination (or group pricing), i.e., the practice of dividing the market in segments and charging the same price for everyone in each segment. All necessary elements were there. His reference to a demand curve for each item of traffic clearly defined the separate markets of a monopolist. In the railroad case these markets could be separated by identifiable characteristics, like product classifications, or by distances, like long and short haul. A simple manipulation of Hadley equations also shows that equilibrium prices in the separate markets were directly related to the demand elasticities of each market. Indeed, price elasticity of demand was an essential, though implicit, part of Hadley’s model.
never a more mistaken idea than the idea that rates would be reduced if they were based upon cost of service”, he complained, deeming the principle and its consequences “bad for the railroads, bad for the shipper, and bad for the prospect of low average rates” (ibid., 250).39 As to other forms of regulation, clear to his mind was the “maze of absurdities” generated by the profit limits imposed to British utilities (Hadley 1896, 167). In pure classical spirit, Hadley believed government regulation always provided a very poor alternative to competitive market forces. In particular, tampering with rate discrimination would inevitably redirect resources away from their optimal investment. In short, railroad regulation was unnecessary and, in the long run, potentially deleterious for economic progress (Hadley 1888, 186).

Hostile to regulation, Hadley was on the contrary sympathetic to a judicial approach, if based upon a clear definition of property rights and the common law standard of reasonableness of rates. Reasonableness had of course to be evaluated according to economic logic – i.e., upon the principle of competitive discrimination, not of cost of service.40 Additionally, he favored the legalization of pooling and a duty of disclosure for railroads’ data and activities. The overall goal was to favor a limited degree of stability in the industry, without hindering the free play of the competitive forces he saw at work even in the presence of railroad monopolies. Notwithstanding the marginalist character of his analysis and the explicit abandonment of classical analytical principles, Hadley’s recipe lay therefore well within the boundaries of classical political economy.

§8. A classical rationale for discrimination

Hadley was not alone to fight the battle for correct economic thinking. Another seminal contribution to the development of regulatory economics came in 1891, when Harvard economist Frank William Taussig gave his own version of why price discrimination was important for industries with high fixed costs.

39 Examining the first months of activity of the ICC, Hadley was relieved to acknowledge the commissioners’ efforts to perform their duties following as much as possible “the broader principles of political economy”, away from nefarious ideas like forcing railroads to base their rates on cost of service (Hadley 1888, 181). The praise to ICC members (see e.g. ibid., 172) did not extend to the content of the 1887 Act that he considered extremely dangerous for the future of American economic development.

40 Under this respect, Hadley very much appreciated the quasi-judicial character of the ICC’s activity in its first months, and even more the fact that, contrary to most US courts, the Commission had applied sound economic principles to assess the violations of the anti-discrimination provision of the Act (Hadley 1888, 167 ff.).
Differently from Hadley, his approach rested on the traditional premise that railroads be natural monopolies. Thus the peculiar structure of their production costs, rather than competitive effects, drove Taussig’s analysis, which borrowed from classical economics much more than Hadley’s.

Railroads were an industry subject to joint costs. This was, generally speaking, the case of “any industry in which there is a large plant, turning out, not one homogeneous commodity, but several commodities, subject to demand from different quarters with different degrees of intensity” (Taussig 1891, 443). As Taussig recognized, Mill had already studied this case, including its main economic implication, namely, that each commodity or service contributed to these joint costs “in proportion to the demand for it. It will contribute more and sell proportionately high if the demand does not need to be tempted by low prices, and will contribute less and sell proportionately low if a high price tends to choke off the demand” (ibid., 444).

Mill’s principle had a straightforward implication on railroad rate-making: “It is, therefore, in accord with what we might expect from general theory that the different sorts of traffic contribute in very different proportions towards paying the fixed charges, or the return to capital, – the element in railway operations which represents joint cost. Traffic which will continue to come even at comparatively high rates will continue to be taxed high, and will contribute largely towards fixed charges. Traffic for which the demand is sensitive to price, and which can be got only at low rates, will contribute little” (ibid.). Classical economists knew this phenomenon well, Taussig remarked. Even Smith had acknowledged that turnpike tolls were differentiated on a willingness-to-pay basis (ibid., 445).

Railroads were a joint cost industry like no other. In their case, not only fixed costs, but also the largest part of operating expenses “represents outlay not separate for each item of traffic, but common to the whole of it or to great groups of it” (ibid.). A careful analysis of the different components of these expenses led Taussig to claim that only a very small portion of total railway costs was directly

41 The influential editor of the *Quarterly Journal of Economics* for forty years, Taussig had been the first “old school” economist to join the then-radical AEA, paving the way to the subsequent rapprochement between the two sides. See Dorfman 1949, 265.
42 See Mill, *Principles*, III.16.4-8. Taussig noted that even Smith had hinted at the problem of allocating joint costs in the *Wealth of Nations* (Taussig 1891, 461-2, footnote).
43 The latter sentence hinted, as in Hadley, at the price elasticity notion. Indeed, Taussig used the terms “sensitive” and “insensitive” to characterize what we modernly call “elastic” and “inelastic” demand. See e.g. Taussig 1891, 454.
44 “When the toll upon carriages of luxury, upon coaches, post-chaises, &c. is made somewhat higher in proportion to their weight, than upon carriages of necessary use, such as carts, waggons, &c. the indolence and vanity of the rich is made to contribute in a very easy manner to the relief of the poor, by rendering cheaper the transportation of heavy goods to all the different parts of the country” (*WN*, V.1.75). Taussig noted that this passage lent itself to an explanation on purely economic grounds as much as to one based upon ethical criteria – that is, having everyone pay for the service according to his means (Taussig 1891, 461-2, footnote).
dependent on the amount of traffic. “Railways present on an enormous scale a case of the production at joint cost of different commodities”, he concluded (ibid., 453).

Competition entered into play here. The joint nature of most railway costs increased “[t]he fierceness of railway competition, due in part to the fact that the enormous plant is irrevocably committed to that particular business”. Under competitive conditions, only variable costs would be calculated into price: “a railway will not retire from the competitive business as long as it yields anything above the small fragment of expense directly traceable to that particular traffic” (ibid., 456). But if fixed costs were not accounted for, the railroads would be unprofitable and there would be no new investment in them, to the detriment of the entire economy. Since the competitive pricing mechanism contributed nothing to fixed costs, how could they be repaid? Taussig’s first conclusion was that cost of service – the beloved notion of supporters of anti-discrimination rules – had nothing to do with rational rate-making, if not for the (usually tiny) part related to variable costs. The pervasiveness of the joint cost phenomenon entailed that no cost-based rule could determine railroad rates.

The most efficient way to repay railroad investments was charging “what the traffic will bear” – what Seligman (1887, 397) called value of service.45 The principle aimed at maximizing railroad traffic on the basis of the customers’ willingness-to-pay, that is, of the different elasticity of the various portions of demand. Taussig’s second conclusion was therefore that price discrimination – whatever its basis: freight classification, geography, or the amount of competition along a particular route – was sound economic behavior, and an efficient one at that. “This seems to me to be the fundamental explanation of the classification of freight”, he concluded, “As time went on, experience forced on managers, whether in charge of public or of private railways, that adaptation of rates to demand which is the inevitable outcome of the peculiarities of the industry” (ibid., 454-5). All instances of discrimination, even the most despised ones, stemmed from the inexorable logic of joint costs, viz., a purely technological feature: they were all “cases in which the explanation of apparent anomalies lies in the fact that by far the greater part of the cost of rendering the service is incurred, not for the particular traffic in hand, but for the traffic as a whole” (ibid., 456).

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45 Taussig was wary of the latter expression, fearing that it might be misinterpreted in terms of the service’s intrinsic utility (Taussig 1891, 463). At the same time, he knew that even “charging what the traffic will bear” was a potentially troublesome expression for spreading the message of sound economics. “That obnoxious phrase”, he admitted, “is used to describe two distinct things; on the one hand, the adaptation of rates to demand which results from joint cost; on the other hand, the adaptation to demand which results from monopoly” (ibid., 457). The latter use made the expression suspect, although the meaning was much about the same: “To the extent to which the element of monopoly enters, rates are again permanently affected by demand, or by what the traffic will bear. Any particular rate may be the result of the working of the two factors of monopoly and joint cost. […] The traffic is charged what it will bear in two distinct senses” (ibid). The expression captured a broad rational rate-making practice, of which classification of freight was just an example (ibid., 456).
If railroads’ rate-making practices were efficient, the best public policy was simply to encourage the largest amount of shipping of all kinds of products, even if they had to be shipped at widely disparate rates. This would permit the spreading of fixed costs over the largest amount of cargo and, consequently, would lower freight rates overall. The policy suggestion was not a mere add-on. Taussig had written the 1891 essay with the express goal of countering the mounting challenge of the so-called *ethical approach* to railway rates. The latter’s core idea was that railway rates were like taxes and, therefore, should be set according to principles of justice akin to those used in taxation policy.\(^\text{46}\)

Taussig’s emphasis on the technological peculiarities of the railway industry, on its being affected by the joint cost phenomenon “on an enormous scale”, thus had an additional rhetorical motivation. It aimed at demonstrating the objective – i.e., inevitable – character of current rate-making practices more effectively than any argument based upon competitive considerations à la Hadley’s. The latter relied upon a profit-maximization assumption Taussig did not want to employ, lest his thesis be undermined by the easy (albeit wrong)\(^\text{47}\) criticism that profits were precisely what a publicly-owned, ethically-driven railroad would *not* pursue. On the contrary, classical economics – with its focus upon objective production conditions – was wholly adequate to the task. Hence, his exclusive recourse to Millian principles, rather than to the marginalist techniques he, like Hadley, perfectly mastered.\(^\text{48}\)

Joint costs analysis provided a strong counter-argument to the ethical approach. Rate discrimination had nothing to do with justice, but with technical necessities: “I trust I have succeeded in showing that the main peculiarities in railway rates, *those which have appeared under government management as well as under private management*, are not to be explained on a supposed basis of justice and right, by which the well-to-do are charged high, and the needy are left off easily” (ibid., 461; emphasis added).

No form of railroad ownership – public or private – which aimed at preserving financial integrity could be exempt from applying this iron logic: “The financial interest of the government would inevitably push it to making rates on this elusive traffic [of bulky goods and long-distance hauls] low enough to attract it: the traffic would be charged what it would bear. It is the nature of the industry which explains the fact, abundantly proved by experience, that government management does not lead to the

\(^{46}\) Taussig’s specific target was a 1883 book by German economist Gustav Cohn, *Die englische Eisenbahnpolitik der letzten zehn Jahre* (1873-1883). Under this approach, he complained, the problem of railway rates “is at bottom one of ethics, involving those considerations of public policy and of right and wrong which recur in the discussions of proportional or progressive taxation”. It was this link between ethics and economics that led supporters of the approach to the conclusion that “public ownership of railways, or at least public regulation of rates, is imperative” (Taussig 1891, 438-9).

\(^{47}\) A leader of the earliest generation of American neoclassical economists, Taussig knew well that profit maximization was simply synonymous with allocative efficiency.

\(^{48}\) This is a nice illustration of the circumstance that for American economists of the Gilded Age marginalism was still just *a* tool, not *the* tool, of analysis. See Yonay 1998, Ch.2
disappearance of classification and apparent discrimination in rates” (ibid., 459). Claiming, as in popular discussions, that “it is ‘right’ that expensive goods should pay high rates, and cheap goods low rates” was therefore only a manifestation of that “disposition, common among those untrained in economic reasoning, to accept as right and just that which has worked itself out in the long run from the play of ordinary economic forces” (ibid., 462).

Like public ownership, not even regulation could neglect the reality of joint costs. Here Taussig’s target was the “fair and reasonable” principle for railway rates established by Section 1 of the Interstate Commerce Act. He complained that the ICC “has been led by this provision, among others, to the slippery problem of directly fixing rates” (ibid., 458). The most dangerous slip would of course consist of surrendering to the cost of service principle, especially when interpreted in pursuit of ethical goals like fairness or justice. Though “the difficulties of saying what are ‘reasonable’ rates seem well-nigh insuperable”, he, like Hadley, had rejoiced at the commissioners’ wisdom: “The Interstate Commerce Commission, in its interpretation of the phrase [‘reasonable and just’], has wisely refrained from putting the test of reasonableness in any assumed cost of services, and in practice has accepted the existing system of rate-making as on the whole reasonable” (ibid.). Once again, the wisest form of regulation was – as classical political economy required – to conform to the insight of those who knew the industry best, namely, the railroad companies themselves and their customers.

§9. In the lion’s den: Meyer’s AEA paper

By the turn of the century it was clear that Hadley and Taussig had failed to ground the issue of railway rate discrimination upon sound economic basis. Indeed, they had not even managed to persuade the totality of their fellow economists. A sign of their failure was the fact that, as late as 1906, the Smalley felt the necessity to explain once again, in an AEA official publication, the logic behind the railroads’ rate-making practices.

“Under the conditions of competition as it prevails among railroads”, Smalley duly reported, “there is no alternative except between discrimination and speedy insolvency. The explanation of this fact is found in one of the characteristic features of the railroad industry, namely, the relation between expenses and volume of traffic. Expenses increase but slightly when traffic increases greatly” (Smalley 1906, 6). Thus, “railroad managers are under a constant and powerful incentive to get business even at reduced rates”; moreover, “it is utterly impossible to determine what any given service will cost the
company” (ibid.). The combination of these two circumstances explained why a railroad manager was willing to offer “whatever rate is necessary to get the business away from his rivals, devoutly hoping all the time that the rate will not prove injurious to his road, but utterly without means of judging its effect. The outcome is that traffic managers are swayed by an impulse to accept traffic at almost any rate, if compelled to do so by competition” (ibid., 7). It followed that “Competition between railroads is fierce and intense, and constantly tends to develop into the ‘cut-throat’ variety, ending perhaps in the all too familiar ‘rate wars’. Dominated by the passion for traffic, eager to snatch it from competing lines, each road cuts rates wherever necessary, or offers other advantages to get the traffic for itself. And thus swarm into industrial life that horde of evils […] of unjust discrimination” (ibid.). The latter “is not only a possibility in railroad management”, Smalley concluded, “it is a natural and inevitable consequence of all unrestricted railroad competition. Railroads do not usually wish to discriminate, but they are compelled to do it. Discrimination may drive them into bankruptcy, but abstinence from it is sure to do so, so long as competition persists. They discriminate in order to live – though their discrimination may sometimes kill them” (ibid.). Hadley and Taussig could not have said it better. Yet, they had said it, long before. Had two decades passed in vain?

The point is that by 1906 the controversy about railroad regulation in general, and rate discrimination in particular, was as intense as ever. The passions raised by these issues were such that some of the political economists who dared oppose the populist calls for tighter restraints on the railroads’ rate-making freedom “were identified as nothing more than mouth-pieces for the railroad interests” (Hovenkamp 1988, 1050). The principle that competition and technology, rather than cost of service, determined the rates was a dangerous one to defend. Smalley could afford upholding it on behalf of the AEA because the policy proposals of his essay (he favored strict regulation, aimed at promoting public interest over railroads’ rights) counterbalanced – in fact, contradicted – the analytical part.49 As Chicago economist Hugo Meyer experienced the same year, no such escape existed when the policy conclusions more consistently stemmed from the analytics.

His was one of the two papers presented at the special session. Meyer had learned the lesson of Hadley and Taussig well. Economic logic led him to claim that only “upon superficial examination” could “the railway rates of this country […] appear to be arbitrary, inconsistent, and grossly discriminating”. Proper examination revealed that they were “not arbitrary but compelled, that is, fixed by competition between the railways and the waterways, the competition of rival railways, and, most frequently, by the competition between rival producing centers and distributing points. […] examined

49 See Smalley 1906, Ch. VII.
more carefully, they cease to appear grossly discriminating, and prove to be honestly and intelligently discriminating. Moreover, they prove to be marvelously well adapted to the needs of our country” (Meyer HR 1906, 61). Yet, Meyer went beyond the mere repetition of sound economic principles. He brilliantly mixed legal and economic arguments, providing an excellent application of what we would now call the law and economics point of view. The notion that the law should be guided by efficiency considerations stemming from economic analysis was the guiding light of Meyer’s argument – only a few decades too early.

Meyer stressed that correct economic reasoning had found support in judicial decisions. “For eighteen years we have had in force the act to regulate commerce, which forbids not all discrimination, but only undue and unjust discrimination”, he reminded his audience. “Under that statute the federal courts have sustained every great American railway rate practice brought before them for adjudication; and the characteristic feature of those practices is discrimination, intelligent and honest, made for the purpose of meeting the needs of trade and industry” (ibid., 62). Data showed that railroads disobeying the ICC’s rate-related orders had won almost every time (32 of 35) the controversy had reached a federal court (ibid.).

Against “the statesmanlike spirit in which the federal courts have construed the act”, the ICC had read “at its pleasure” into the same act “political and economic theories, none of which the Congress had made a part of the established law of the land, and at least one of which is in direct conflict with the intentions of the framers of our federal constitution”. The principles followed by ICC – like, e.g., “to grant each community the rightful benefit of location”, or “to keep different commodities on an equal footing” – found no legitimacy in economic theory, nor in express Congress provisions. These principles “one and all, have meant: not the promotion of trade, but the restraint and the partial destruction of trade and of competition” (ibid., 63-4).

Abusing its limited power to prescribe railway rates, and notwithstanding its nature of pure administrative body, the ICC had become, in fact, “a deputy Congress, free to make and unmake the public policy as well as the law of the land” (ibid., 64). This exercise of a quasi-legislative function seemed to contradict established constitutional doctrines. But even before than a problem of dubious constitutional legitimacy, it was a matter of bad economics: “All of the foregoing attempts at legislation rest upon the doctrine that railway rates must be based upon respective costs of service, that they may not be made upon ‘commercial considerations’, i.e., in obedience to the competition of the markets” (ibid., 66). The outcome, to Meyer’s view, had been dismal: “Restraint of competition and trade, and

50 For the reasons behind the federal courts’ attitude, see Giocoli forthcoming, Ch.7.

51 By the Commerce Clause of the American Constitution, the regulation of interstate commerce is one of Congress’s exclusive powers.
disregard of the rights of several of the parties to each controversy over railway rates, has been the characteristic feature of every decision in which the Commission has condemned a great American railway rate practice” (ibid., 67).

Unsurprisingly, Meyer’s tirade against the ICC met hostile reactions, both at the AEA meeting and elsewhere. The discussant, Dartmouth economist Frank Haigh Dixon, simply called his ideas unacceptable. The political climate of the period, in general, and of the AEA, in particular, led Dixon to proffer words that would have sound abomination just a couple of decades before: “the views of Mr. Hugo Meyer […] lead inevitably to the policy of extreme laissez-faire, to the general conclusion that the interaction of competitive forces, undisturbed by state interference, has led and will lead to beneficent results to the people and industries of this country, and that any governmental interference must have a tendency to thwart the working of this beneficent policy” (Dixon 1906, 84). Having so dismissed the classical system of natural liberty, Dixon moved on to defend the cost of service principle of rate-making, which he called “the distance tariff”. He turned Meyer’s argument against the principle, and in favor of rate discrimination, on its head, arguing that “the policy of disregarding distance which is carried to such an extreme by American roads” had actually been deleterious for the US economy. As he put it: “the country has been obliged to bear the burden of indirect shipments on differential roads, and cross-shipments of goods of the same character to markets far removed from producing sections” (ibid., 86-7). Once again, what benefited railroads was not necessarily good for the country as a whole: “The traffic manager obviously looks at the question from the point of view of his own road alone. It does not at all follow that his strenuous efforts to develop territory and secure business that leads him even to invade the territory of another system, is for the best economic interest of the country as a whole. Rate wars and patched up peace treaties may be regarded by some as automatic and beneficent adjustments of the rate question, but they involve unquestionably great economic waste” (ibid., 87).

Sadly for Meyer, the negative reactions did not end with an unfavorable discussant. Even the second paper presented at the session read more as an attack to his own one than an independent contribution. The author was another Meyer, Balthasar Henry, an economist and sociologist at the University of Wisconsin, who was also a member of the state’s railroad commission and a future ICC commissioner. The Meyer of Wisconsin defended the work of regulatory bodies. The final sentence of his paper said it all: “there are two, and only two, alternatives before the world today with respect to railways: either government ownership and operation, or rigid governmental control. My choice is the second alternative” (Meyer BH 1906, 83). Like Dixon, Balthasar Meyer had no faith in the beneficial effects of
competition: “competition as a regulator of rates and a protector against unreasonable or unjust rates has proven itself a failure in every country in which railway systems have been developed” (ibid., 74). The reason was simply that railways were enterprises like no others: “in current discussions it is frequently asserted that railway enterprise is like every other business enterprise, and that no more legislation is needed for a railway than for a soap factory. This paper assumes that the railway differs in many of its most vital aspects from other commercial enterprises, and that upon these differences, well understood by nearly every member of this Association, but not by many outside of the association, rests the necessity of more far-reaching restrictive legislation. The conditions of today demand an effective control of all railway rates” (ibid., 69; emphasis added). One may not fail to notice the polemics implicit in the two italicized words. How could an economist deserving his name fail to understand that railways were not like soap factories?

The failure of competition went hand in hand with the evils of rate discrimination: “There is, perhaps, no state in the union in which there are not hundreds of misfits in the rate” (ibid.). “The mere fact of their existence”, Balthasar Meyer continued, “is sufficient ground for the demand to give a commission power to fix rates within limitations prescribed by law. [...] To give a commission power over the rate and service does not necessarily mean the frequent or continual exercise of such power. In fact, the possession of power may be the safest guarantee against the necessity for the constant exercise of it” (ibid., 72). Skepticism about market forces, and a barely concealed polemic against the other Meyer, was the leading trait: “We are told that no such tribunal is needed, for the reason that railway rates are beyond the power of control by traffic men; that railway rate-makers are generally passive and merely ‘register’ the commercial forces which are continually being reflected into their brains; that commercial conditions and the competition of markets determine rates. [...] That railway rates are in many cases the result of nicely balanced commercial conditions is demonstrable. That they are in other cases violating commercial conditions is equally demonstrable. The appeal to commercial conditions is sometimes a fact and sometimes fiction” (ibid., 71).

Then, as if he were himself discussing Hugo Meyer’s paper, Balthasar Meyer proceeded to defend the work of enlightened railway regulators – like himself. “It is argued that if a commission is given power to prescribe a rate, either on complaint or on its own initiative, the result will be a general remodelling

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52 Logan Grant McPherson, lecturer at Johns Hopkins University on transportation economics and discussant of Balthasar Meyer’s paper, could not miss the chance to reply that: “The fact is that in so far as its balance sheet is concerned a railroad company is exactly like a soap factory: if it spend more than it earns it can not like the Post Office Department make up the deficit from taxation, but it is sold out just like a soap factory or any other business concern” (McPherson 1906, 89). McPherson’s discussion was a summary of sound economic principles, along Taussig’s lines: see ibid., 89-91.
of all rates in accordance with theoretical or political considerations controlling the commission”, he noted in seemingly direct reference to the other presentation. His answer was that “Generally speaking, this position assumes ignorance, dependence, and lack of energy on the part of commissions. […] The conflict of sectional interests is a reality. The impotence of the commission in the face of sectional interests is largely a myth” (ibid., 74-5). As to the role of courts, so praised in the other Meyer’s work, Balthasar was skeptical that they could ever replace expert commissioners: “Proposed federal legislation cannot, therefore, create this sectional rivalry. It already exists; but there exists no tribunal with power over the rate to which an appeal may be taken for the establishment of a just and reasonable basis upon which to continue the rivalry” (ibid., 77). Indeed, one such tribunal did exist: “A railway commission is peculiarly well fitted to arbitrate and decide questions arising from antagonistic interest” (ibid., 76). Experience showed that regulators were not going to abuse of their quasi-legislative power: ICC’s decisions “from the time of its organization to the present show no dogmatic adherence to any one principle of rate-making” (ibid., 78).

Next came a defense of the distance tariff. Rather than bringing new economic arguments, he resorted to ridicule the critics, thus implicitly including in his mockery the likes of Hadley and Taussig: “One feature of the controversy with reference to this phase of government rate-making is most extraordinary. It is this: The railway was created to overcome distance and to create place utilities; and now it is urged that a general regard for distance in making rates would bring ruin! […] many sane men in the United States fail to understand the ‘beneficent’ effects of a system of rate-making which absolutely neglects an extra distance of a thousand or fifteen hundred miles!” (ibid., 79-80). That a link existed between the function of railways and the best way of pricing their services was only clear to Balthasar Meyer’s mind. Undeterred, he assaulted another pillar of the Hadley-Taussig edifice, namely, the notion that rate-making had better be left to the railway managers’ determination. “[T]he danger of disturbing so-called fundamental rates is largely a myth”, Meyer wrote, “But even the challenge of a basal rate does not necessarily bring harmful results to the house of cards of rate schedules. Until railway rates are made in a more scientific manner, and rest upon foundations which can be tangibly described and determined, it is well not to manifest too much anxiety regarding the inviolability of their present frail foundations” (ibid., 77; emphasis added). Once again, the implication was immediate: no solid economic theory of railway rates existed; hence, regulators could have a free hand at
establishing them. Any “sane man” denying that was either a bad economist or a puppet in the railroads’ hands – probably both.\textsuperscript{53}

\section*{§10. Finale: a career-ending incident}

The onslaught at Hugo Meyer’s views did not remain a mere academic controversy like many others. Because of his ideas, the Chicago economist was directly charged with corruption by a prominent member (and future chairman) of the ICC, Judson Claudius Clements, and by a US Senator, Iowa Republican Jonathan Prentiss Dolliver. The defamatory indictment followed Meyer’s presentation of his views about railway regulation before the US Senate Committee on railways. His testimony was so badly received that it triggered accusations of bribery by railroad companies. This further incident took place a few months before the AEA meeting\textsuperscript{54} and caused great agitation in the academic community, especially because of the allegation that railroads were influencing education in top American universities as a strategy to further their interests.

Commissioner Clements declared that “Wealth always finds it is easy to employ men of theory and doctrine and ability to express its views, and they are often directed to educating the public up to the idea of the superior sanctity of vested rights as against individual rights and individual opportunities in the contests in which engage in the different walks of life. It is ordinarily to expected that these gentlemen would attack a doctrine or practice that was at variance to the doctrines dear to the patron saint”. As to Senator Dolliver, he fused in the indictment Meyer and his new department colleagues by publicly proclaiming that “the University of Chicago smelled of oil like a Kansas town” – this, of course, in reference to the munificent sponsor that University was allegedly subservient to.\textsuperscript{55} So reckless was Dolliver’s attack that he even incurred in an incredible blunder. In the same speech, he scorned Meyer for his about-face on railroad regulation, which had allegedly followed his appointment to Chicago. Meyer had surely been bribed into becoming a defender of railroads: how else could one explain the reneging of his earlier, strong pro-regulatory views? Alas, the Senator’s venom was

\textsuperscript{53} Balthasar Meyer’s will reiterate his critiques, this time expressly targeting Hugo’s theory, in Meyer BH 1906b.
\textsuperscript{54} Meyer gave his Senate testimony in May 1905.
\textsuperscript{55} Both quotes are from Laughlin 1906, 42-3. Oil baron John D. Rockefeller had almost single-handedly financed the new University of Chicago (see Van Overtveldt 2007, 20-25). Railroad interests were tightly connected with those of the oil industry, which was one of their best customers, often to the point of monopsony.
misplaced: the Meyer he referred to for having previously invoked regulation was Wisconsin Balthasar, not Chicago Hugo!

The public at large liked the latter’s ideas no better. “Partisan and untrustworthy”: with these words the April 4\textsuperscript{th}, 1906, issue of the Boston Evening Transcript informed its readers of Hugo Meyer’s recent monograph on Government Regulation of Railway Rates (Meyer 1905).\textsuperscript{56} Such was the measure of popular tolerance for any law and economics reasoning that, regardless of its soundness, did not conform to the dominant view that competition could not work in the case of railways and that government intervention was compulsory to protect public interest against railroad practices.

In June 1906, President Roosevelt’s pressing eventually prevailed. Congress passed the Hepburn Act, empowering the ICC to declare an existing rate unreasonable and prescribe a new one – i.e., a full rate-making power. Despite the economists’ massive involvement in the debates, the enacted solution was not the one suggested by the best scholarship in law and economics. The time for accepting the legal implications of purely efficiency-based economic reasoning had not come yet. In the hands of the ICC, “just and reasonable” rates could be twisted to pursue goals other than economic efficiency and, sometimes, also other than US constitutional values.

Already less than outstanding,\textsuperscript{57} Meyer’s academic career ended there. Following these episodes, he left for Australia in 1907, where he died in 1923 without ever returning to the US. While we cannot be sure about the motives for this decision, it is a fact that he never had an academic affiliation again. In his new country, he continued to do research on British public utilities and the history of state ownership in Victoria, but he never became a university professor.\textsuperscript{58} The assault against his academic integrity did not remain unanswered, though. The powerful head of Chicago Economics Department, James Laurence Laughlin, published a short note in Meyer’s defense in the January 1906 issue of the Journal of Political Economy, of which he was editor.\textsuperscript{59} Laughlin’s words are a good yardstick for appreciating what railroad regulation could actually mean in early 20\textsuperscript{th}-century America.

“On the railway question the prevailing tone is one of general hostility to large corporations”, Laughlin complained, “In some academic circles the necessity of appearing on good terms with the masses goes so far that only the mass-point-of-view is given recognition; and the presentation of the truth, if it happens to traverse the popular case, is regarded with something akin to consternation”

\textsuperscript{56} For a deeper evaluation of the book, the article referred to the scathing review written by – who else? – Balthasar Meyer: see Meyer BH 1906b.

\textsuperscript{57} Remember that at the time of the Senate and AEA incidents, assistant professor Meyer was already 39.

\textsuperscript{58} See the entries “Meyer, Hugo R.” in Who’s Who in the World (1912) and The Encyclopedia Americana (1920).

\textsuperscript{59} Laughlin also gave Meyer the opportunity to offer a convincing reply to Balthasar Meyer’s critiques: see Meyer 1906b. Unfortunately, the issue could not be settled on pure scientific grounds anymore.
Yes, academic freedom was at risk, but the threat did not come from the railroads’ or oil barons’ money: “it is not amiss to demand that measure of academic freedom that will permit a fair discussion of the rights of those who do not have the popular acclaim. It is going too far when a carefully reasoned argument which happens to support the contentions of the railways is treated as if necessarily the outcome of bribery by the money kings” (ibid., emphasis added). Apparently, the law and economics point of view was still far from gaining acceptance – and with it the idea that theoretical controversy should be kept separate from political ones.

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