

How Institutions Create Ideas : Notions of Public and Private Efficiency from Early French and American Railroading¹

Frank DOBBIN²

Résumé. ???

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2. ✉: Harvard University, Department of Sociology, Cambridge, MA 02138, USA – 🌐: frank_dobbin@harvard.edu - <http://www.wjh.harvard.edu/soc/faculty/dobbin/>

INTRODUCTION

During the nineteenth century, very different templates for organizing the economy emerged in Europe and North America. Perhaps the single most important difference across countries concerned the roles of public and private action. Is the state a legitimate and rational participant in decisions about industrial development? Is the state an efficient entrepreneur? Entirely different answers to these questions emerged. I focus on the two countries commonly cited as representing the ideals of private and public industrial leadership, the United States and France. I examine the industry often cited as having set these two countries on different paths, railroading. The Americans and the French developed disparate ideas about the role of the state in industrialization from their experiences with railroads. By 1870, when the main railroad trunk lines had been laid in both countries, these ideas had gelled. Americans gave credit to private capital and initiative for the railroads and took the lesson that the state's role was to serve as referee in industrial development, leaving it to the private sector to pursue ambitious industrial goals (CALLENDER [1902]). The French gave credit to state finance and initiative and took the lesson that the state's role was to develop and capitalize important industrial projects, orchestrating the activities of private parties toward national goals (PICARD [1918]). These lessons would affect how each nation developed future industries.

By about 1875, American and French citizens had drawn very different conclusions about the role of government in railroading, and those conclusions would shape the role of government in future industries. How did the Americans and the French come to such different ideas about the relationship between government and industry in railroading? I examine three possible arguments. First, many argue that these ideas simply reflect the fact that the French government was generous to railroads and American governments were not. I will show that the evidence provided by economic historians belies this argument; American governments provided a bigger share of railroad capital. Second, political analysts suggest that the American ideal of *laissez faire* and the French ideal of *etatisme* colored how the two countries saw railroad development. I point out that the countries shared a political ideology of government leadership in industrial development during the early railway age, and that the American ideal of *laissez faire* spread after the main rail lines were built and after Americans concluded that private enterprise was responsible for their railroads.

Third, sociological institutionalists suggest that institutions create ideas as well as being created by them (MEYER, ROWAN [1977]; SEWELL [1985]). In this case, I argue, the structure of American and French political institutions shaped ideas about the role of the government in industrial development. First, the dispersion versus centralization of political authority mattered. In America, the dispersion of political authority to states and municipalities meant that most

railroad aid came from regional governments. Decentralization of decision-making caused Americans to mistake local government financing for private financing, and to wrongly credit private actors with taking the initiative and providing the funds. In France, the centralization of political authority meant that decisions about railroad building were made in Paris. Centralization caused the French to mistake planning authority for capitalization, which was mostly private. In fact, governments decided where railroads would be built in both countries, and governments provided the lion's share of the capital in the United States. Second, the separation versus unification of powers across branches of government mattered. In America, the separation of powers led citizens to see government as an arena for conflict resolution and to emphasize the importance of private initiative in industrialization. In France, the unification of powers led citizens to see the government as a single-minded, unitary, actor in itself and to emphasize the importance of public initiative.

I begin by examining each of these three broad arguments in greater detail, and then assess the empirical evidence.

UNDERSTANDING NATIONAL BELIEFS

Where did France and America's early perceptions of the roles of public and private finance in railway development come from? Neo-institutionalists contend that groups and nations divine ideas about causation from their experiences with social institutions. The ideas they divine are shaped by state structure. Where the government appears to be weak, citizens may underestimate its role in shaping the economy. Where it appears to be strong, citizens may overestimate its role in shaping the economy.

Sociological Institutionalism: Institutions Produce Ideas

Institutionalists have explored how rationalized scripts for action emerge and diffuse (MEYER, ROWAN [1977]; DIMAGGIO, POWELL [1983]). Empirical studies explore how new templates are consecrated and popularized (HAVEMAN [1993]; DAVIS, DIEKMANN, TINSLEY [1994]; EDELMAN [1992] SUTTON, DOBBIN [1996]; DOBBIN, SUTTON [1998]). The theory is grounded in Peter Berger and Thomas Luckmann's *The Social Construction of Reality* [1966]. WEBER [1968] offers the driving insight, that even the most mundane of social practices carries subjective meaning, because only through shared understanding does human activity become regularized in social practices. Like WEBER, DURKHEIM believed that only by understanding (verstehen) the subjective meaning of an action to the actor do we really understand social activity. The view is in line with Mary DOUGLAS's argument in *How Institutions Think* [1986, p. 45] — that social institutions contain causal designations and representations

of order that shape both individual cognition (“think of the individual mind furnished as society writ small”) and formal explanatory paradigms.

Templates involve both actions and their meanings, and they persist to the extent that groups come to see them as providing accurate causal models of means to ends. Neoinstitutionalists focus on how new practices and their causal designations diffuse across organizations in tandem. But BERGER and LUCKMANN note that groups also attribute meaning to practices they inherit, and as causal ideas and collective goals evolve, groups may attribute new purposes to traditional practices. Thus, in *Forging Industrial Policy* [1994] I argue that policymakers and citizens drew lessons about how to structure industry from the structures of their polities. They took very different lessons. The French saw central authority as key to industrial order, or they did so to a greater extent than either the Americans or the British. The Americans at first placed faith in community self-determination, in economic as in political matters, and later translated the metaphor of competition between communities into a metaphor for industrialization. The British allocated authority in economic decisions, as in political ones, to individuals. My argument built on the insights of Guy SWANSON [1967], for whom state structure influenced which countries would embrace Protestantism during Reformation, for a centralized state is compatible with the Catholic view of God as immanent and a decentralized state is compatible with the Protestant view of God as transcendental.

This study amends my original argument. It is not merely that the reality of political organization shaped the reality of economic organization in these countries, but that the ideology that accompanied political structures shaped the lessons that these countries took from their early experiments in industrial promotion. Citizens drew lessons about causality less from the substance of what governments did to promote industry than from the way in which state structure symbolized the role of government. This argument is in some ways quite close to Swanson's, but I explore how state structure shaped the emergent vision of economic order rather than the emergent vision of religious order. Because the American state was organized with authority dispersed to state and local government and with government powers divided among three branches, Americans came to see government action as synonymous with private action. Because the French state was organized with authority centralized in Paris and with government powers unified in the bureaucracy, the French were more likely to think the unified state was the agent of industrialization even when the private sector played a large role.

Most analysts see political ideas as blueprints for social institutions. They think that people and parties come up with ideas, and then try to shape policy with those ideas. In the tradition of BERGER and LUCKMANN, institutionalists tend to be agnostic about whether ideas produce institutions or vice versa, in any particular case. They treat the relationship as a chicken-and-egg problem that can only be resolved empirically. I argue that government institutions shaped ideas about industrialization. In the American case, the structure of government, which had been developed to preclude the rise of political tyranny

and not to support any particular ideology of industrialization, contributed to the rise of laissez faire ideas about the economy. In France, as Pierre Rosanvallon has argued, etatism began as a way of life rather than as an economic ideology: "It cannot be overemphasized that French interventionism – Colbertism ... – is not in essence 'ideological.' It corresponds principally to sociological and cultural factors." (ROSANVALLON [1989, p. 192]). Perry ANDERSON [1974] traces those factors to the need for absolute military control on the continent, and not to economic ideology. So public institutions gave rise to ideologies of industrialization, rather than vice versa.

My argument has important implications for rational learning theories of policymaking, which posit that policymakers learn from their own, and others', experiences and that this learning alters their strategies at future decision points (REITER [1996]; Levy [1994]). As we will see, what these countries learned from their experiences was very much shaped by the structure of the state – each populace saw the world through state – or private-tinted glasses. The conclusions policymakers in the two countries drew would influence how they treated later industries.

To test the argument that the form, not the substance, of government action mattered, I examine how French and American railroaders and observers perceived public aid by about 1875. I show that Americans saw extravagant state and municipal grants as private contributions, and that the French saw meager central government grants as public contributions that were key to development.

Economic Historians: Actual Capitalization and Initiative

Many economic historians have argued that private parties provided the bulk of the capital and initiative for America's early railroads and that the state provided the bulk of both for France's early railroads. They suggest that differences in American and French ideas about the roles of public and private initiative simply reflect the numbers.

In the case of the United States, the British analyst D.C.L. Lardner argued [1850, p. 411] that railroads were the province of private enterprise, "Railways in America have been generally constructed, as in England, by joint-stock companies." From the eminent railroad historian Robert HUNGERFORD [1928 v. I, p. 15], who wrote that Congress's refusal to finance the Baltimore and Ohio ensured that this early line would showcase private initiative, to the preeminent contemporary business historian Alfred CHANDLER [1977], who argued that public capital played little role, historians have generally taken this view. They have defined public contributions to mean federal contributions, and have thus been blind to the contributions of state and local governments.

In the case of France, the American historian Kimon DOUKAS argued that the law of July 15, 1840, guaranteeing the interest on private stock held in the Paris-Orléans line, set the French state on a course of ambitious public initiative and financing:

This momentous step marked the beginning of an endless procession of public appropriations and guarantees which for a century plagued the national treasury ... Such direct statism ("étatisme") had already proved its concern by assisting in the construction of roads, bridges, and canals; it reached new heights during the July Monarchy, when railroad expansion was at its peak. [1945, p. 21]

The success of France's rail system, DOUKAS [1945, p. 25] argues, is "to a very large extent due to the lavish contributions made by a bountiful state to the railroad industry in France." Most analysts, ranging from the notable German historian of French railroads Richard de KAUFMANN [1900] to France's longtime Inspector General of Bridges and Roads Alfred PICARD [1918], date French state leadership to the public guarantee of interest on the Paris-Orléans line in 1840 and highlight the tremendous financial exposure the state took on in 1859 when it extended this guarantee to other lines.

There is some evidence that historians of the U.S. and historians of France have been swayed by public opinion about the role of government in industrialization, for when they face similar evidence they seem to reach different conclusions. First, in analyzing quite similar sorts of public guarantees of private capital, historians of the United States tend to emphasize that private parties provided the cash and historians of France tend to emphasize that the state assumed an obligation for the entire cost. American governments guaranteed bonds, and the French government guaranteed stock. Alfred CHANDLER [1965, p. 44] notes that although government-guaranteed bonds often drew railroad capital in America, "Nevertheless, private investors contributed much more capital to the construction of American railroads than did public bodies." Kimon DOUKAS notes that although government-guaranteed stock drew private capital to the railroads, the state deserved credit for assuming the financial risk: "this legislation gave a vigorous impulse to railroad building" (DOUKAS [1945, p. 23]).

Second, in analyzing similar levels of public contributions, historians accentuate the private in the U.S. and the public in France. When assessing the Baltimore and Ohio (est. 1828), which received more than half of its capital from state and local governments, HUNGERFORD [1928] argued that because the federal government rejected requests for aid, private investors deserved credit for building the line. When analyzing the Paris-Orléans railroad (est. 1838), for which the state guaranteed a four percent return on private capital, KAUFMANN [1900] and PICARD [1915] credit the state with assembling and guaranteeing the capital.

I seek to understand not the views of economic historians, but the views of citizens and policymakers by about 1875. Yet it appears that the views of citizens came to shape the views of economic historians, and thereby arguably shaped their thesis that French government played a much larger role in railroad development than did American governments.

Do differences in actual capitalization explain American and French ideas about the roles of public and private in railroad development circa 1875? To test this hypothesis I examine the evidence on railroad finance below. The data

show that compared to the French state, American governments contributed a greater proportion of the capital used to build railroads, initiated more projects, and initiated projects earlier.

Political Ideology

Analysts of political ideology have argued, alternatively, that the Americans and the French interpreted industrial experiences differently because they began with different ideologies. *Laissez faire* ideology caused Americans to emphasize private initiative. Colbertist ideology caused the French to emphasize public initiative.

Otis GRAHAM, Jr. [1991] argues that anti-statist sentiments have caused Americans to be blind to the substantial role of state and local governments in industrialization. Regional governments have long used tax abatements, bond guarantees, and outright subsidies to attract new businesses and support vital industries, but the power of *laissez faire* ideology obscured these actions. As early as 1902, G.S. CALLENDER argued that political ideology explains the American conviction that “‘State interference’ has played the smallest part, and individual enterprise has been given the largest scope, in industrial affairs” [1902, p. 111]. CALLENDER chronicled massive governmental subsidies for transportation, banking, and manufacturing enterprises, and contrasted these with Americans’ stubborn belief that their government practiced *laissez faire*. For CALLENDER, the fact that “‘for more than fifty years the federal government was in the hands of a party that professed to be afraid of strong government” was key [1902, p. 111]. Thomas JEFFERSON had set the tone for the Democrats, railing against government tyranny of the sort the British imposed. A rhetoric of privatism, these analysts contend, obscured the very active role of state and local government in early development.

This theme is also found in the quartet of influential studies, initiated during the 1940s, of the role state governments played in the early development of Massachusetts (HANDLIN and HANDLIN [1947] [1969]), Pennsylvania (HARTZ [1948]), Georgia (HEATH [1954]), and Missouri (PRIMM [1954]). As Oscar and Mary HANDLIN (1969, p. xvi) note; “Too often the absence of activity by the federal government has been taken for the absence of all activity.”

These studies, I will show, depict the early twentieth century better than the middle decades of the nineteenth century, before *laissez faire* ideology was popular in America. In the decades when Americans were drawing the conclusion that private parties financed the railroads, the prevailing political parties supported a very active role for the government in development. *Laissez faire* ideas spread later. Americans largely opposed direct government management of corporations, because this smacked of the kind of tyranny they had fought the Revolutionary War to escape, but up to the 1870s all three of the leading political parties championed government decision-making about which industries should grow, and government financing of industry.

Political scientists have argued much the opposite argument about France—that her statist political ideology has colored how her people perceive industrial activity. Alexis de TOCQUEVILLE showed that despite disruptions in France’s political leadership during the age of revolution, the core bureaucracy of the ancien regime survived intact. Thus the statist ideology of Louis XIV, dubbed Colbertian after Louis’ mercantilist controller-general of finance, Jean Baptiste COLBERT, was well entrenched. Andrew SHONFIELD revived TOCQUEVILLE’s view in the 1960s, arguing, “The essential French view, which goes back to well before the Revolution of 1789, is that the effective conduct of a nation’s economic life must depend on the concentration of power in the hands of a small number of exceptionally able people, exercising foresight and judgment” [1965, p. 72]. As Jack Hayward depicts this ideology, while it did not always “in practice mean integrated or decisive action,” it did imply a state “capacity for policy initiative, a potential for far-sighted planning and a propensity to impose its will” [1982, p. 116]. The French, HAYWARD [1986, p. xiii]; see also ROSANVALLON [2004] argues, held a political ideology which caused them to perceive the state as directing the economy even when it was doing relatively little to influence private action: “The normative weight of national tradition was tilted in favor of state force rather than market forces and it was taken for granted that governments could decide what they wanted to happen and were able to make it happen.”

Did Americans come to believe that private initiative built the railroads because they were swayed by laissez faire ideology? Did the French believe that the state built the railroads because they were swayed by étatiste ideology? To test these explanations below I detail the prevailing ideologies of development during the middle decades of the nineteenth century. I show that laissez faire did not become popular in the United States until after 1870, and that there were mixed sentiments about étatism in France during those years.

WHO BUILT THE NATION’S RAILROADS?: THE FRENCH AND AMERICAN VIEWS

By the mid-1870s, Americans credited private action for the railroads and the French credited the state. The lessons derived from railroading would shape policymaking for decades to come. Students of economic thought in the late nineteenth century find these divergent beliefs not only among the public at large, but among journalists, scholars, business leaders, politicians, and government officials. Next I review the outcome to be explained, these divergent views, before examining the evidence for each of the three explanations outlined above.

I emphasize the views of the public, policymakers, railroaders, and journalists circa 1875 because events of the 1870s and 1880s tended to reinforce the American view, but by no means did they put that view into place. Railroad

scandals, including widespread bankruptcies among state and local governments caused by their overzealous promotion of railroads, led Americans to view public aid as corrupt. But the public and experts alike discounted the role of public aid even before these scandals tarnished it.

The American View: Private Initiative and Capitalization

Students of American attitudes note that by about the 1870s, Americans believed that their government had little hand in rail development. Albert SHAW, a young Johns HOPKINS Ph.D. who surveyed the policies of the American states for British writer James BRYCE, wrote in the 1880s that, despite massive public initiative in industry, Americans retained a belief in privatism. He found American states in “utter disregard for the laissez faire principle,” but found that Americans believed their governments had played little role in financing railroads and other enterprises. He concluded that “The average American has an unequalled capacity for the entertainment of legal fictions and kindred delusions” and that he “lives in one world of theory and in another world of practice” (quoted in GRAHAM [1992, p. 189]). On the one hand, Americans routinely voted to subsidize and regulate railroads and other industries. On the other, Americans believed that their government did not lead economic development.

In 1902, the economic historian G.S. CALLENDER remarked on the American tendency to deny the role of the government in the promotion of early transportation, banking, and industrial enterprises.

The last century witnessed everywhere a great extension of the activities of the State into the field of industry. Americans are not accustomed to think of their own country as taking a very prominent part in this movement, much less as having ever occupied a leading position in it. To them, as to the rest of the world, America is the land of private enterprise par excellence; the place where “State interference” has played the smallest part, and individual enterprise has been given the largest scope, in industrial affairs. (CALLENDER [1902, p. 111])

Nevertheless, CALLENDER [1902, p. 159] concludes, “this country was one of the first to ... extend the activity of the State into industry. And it advanced so rapidly and so far along this line that it became” for much of the nineteenth century the world’s preeminent example.

The French View: Public Capitalization and Initiative

In their 1858 report the French railroad Compagnie de l’Ouest – which like all French railroads of the time was a private concern – argued that public largesse accounted for the great successes of the railroad industry, and that it would be foolish to deny the nation the benefits of government leadership for the principle of privatism.

The government we are speaking about is the one which, in 1852, gave such a strong impulse to our industry; it is the [government] which, taking the

broadest perspective of the general interest, has rejected the narrow and jealous state of mind which would prefer to dry up the source of public prosperity than to see public intervention. (quoted in AUDIGANNE [1862, p. 143])

As early as the 1850s, the French were speaking of their railroads as endeavors which combined private entrepreneurial spirit with public capital. They were speaking of their railroads as public property.

Explaining French and American Views

In this section I review evidence for the three explanations of public perceptions of railroad finance. First, do different levels of public effort explain the different understandings, as economic historians have suggested? American and French governments used strikingly similar policy instruments and provided similar proportions of the capital used to build railroads. By all accounts, American governments were more generous than was the French government. Second, does political ideology explain the difference? In both countries we find substantial support for developmental statism. While the American Democrats opposed an active federal government, they vigorously and explicitly backed state-level developmentalism. In France, while most political leaders favored public leadership in industry, many engineers and entrepreneurs argued that the state should leave the railroads to private enterprise (Smith 1990). The proponents of private initiative, in fact, won the debate in France and it was thus that the railroads became private enterprises.

Third, what does seem to explain the different interpretations of public and private finance in railroading is differences in how government action was organized. Below I trace how the dispersion of political authority to the local communities and the separation of federal powers produced a privatized view of railroad development in America. And I trace how the centralization of political authority and unification of public powers produced a statist view of railroad development in France.

I close the analysis in the 1870s for two reasons. First, the main trunk lines were completed in each country by 1870 (CHANDLER [1977, p. 88]; ADAMS [1893, p. 117]). Second, in the United States the Credit Mobilier scandal of the 1870s tarnished the image of public promotion of industry and gave Americans new rhetorical ammunition against public leadership. Thus after the depression of the 1870s, Americans had new reasons to deny the role of government in railroad finance – they associated government finance with graft and corruption.

Actual Capitalization and Initiative

Might differences in the level of public initiative and capitalization explain differences in American and French perceptions of the public role? The bottom line is that American governments initiated more projects and contributed more capital than did the French government. The French state, in fact, did

little to initiate projects itself and did a great deal to thwart privately initiated projects (DOUKAS [1945]; KAUFMANN [1900]).

I review, first, the relative importance of public leadership, which played a bigger role in the United States; second, the forms of public aid used, which were remarkably similar; and third, the proportion of capital provided by government, which was greater in the United States. It should not come as a surprise that American governments contributed more generously to early railroad construction than did the French government, for American government contributions were the result of intense regional rivalries. Municipal and state governments competed fiercely to win rail lines, and their main weapons were financial incentives. This was where the Constitution located public authority in the United States – what government activity there was, for most of the period, was local. By contrast, the French state devised a scheme for mixed public-private finance to minimize public contributions.

Public leadership

In both countries, private companies owned, operated, and for the most part constructed the railroads. In both, government leadership took the form of financial inducements to build certain railroads. In comparing public leadership, two things are important. First, timing mattered. Did public initiative stimulate private action, or follow it? In the United States, virtually every state government on the Eastern Seaboard promoted rail projects aggressively from the mid-1820s (ADAMS [1893]); by contrast the French state was slow to back rail development, and between 1823 and 1838 held a moratorium on granting railroad charters so that it could develop a national plan (ADAM [1973]). As a consequence, by 1834 France had scarcely 95 miles of rail track in operation – barely more than the City of Philadelphia had built (CHEVALIER [1969, p. 86]). By 1841 the United States had 5,000 kilometers of rail track in operation – more even than Britain where railroad technology had been developed – and France had only 573 kilometers (DOUKAS [1945, p. 21]). In the early years, the French state did more to stall rail development than to encourage it. Why was this? In France, central state authorities and municipalities were at first skeptical of the need for railroads, believing that roads and canals would serve the nation's transportation needs. As one French analyst of the American scene observed:

There was no need [in America], as there was in France, for clear-sighted poets to champion railroads against skeptical statesmen ... No difficulties were placed in their way by large towns, whereas in our country Tours, Orleans .. and many other towns obliged the railroads to depart from what should have been their natural course, and professed themselves quite satisfied to go on using our fine roads. (D'ESTROUNELLES DE CONSTANT [1915, p. 188])

Public leadership was thus infinitely more important in the American case than in the French. American governments promoted railroad development

well before the private sector had any interest. The French state held back private initiative when entrepreneurs were chomping at the bit.

Second, the extent of public initiative mattered. Did government initiate projects to serve multitudes of destinations, or only a few privileged destinations? In the United States, virtually every state and every city of any size participated in what Harry SCHEIBER (SCHEIBER [1981, p. 131]) calls “rivalistic state mercantilism” in the 1830s and 1840s. Governments initiated both large and small projects in every populated region of the country. From the 1820s, for instance, New York, Pennsylvania, Massachusetts, Maryland, Virginia, North Carolina, South Carolina, and Georgia financed westward transport routes, in competition for what a Virginia state report dubbed “that interesting prize,” the commercial route westward (GOODRICH [1960, p. 51]). In railroad-ing, competition among towns and states hoping to secure their places in the network became the driving force of expansion. Cities and towns, fearful that the transport revolution would pass them by, offered subsidies well beyond their means (FISHER [1947]).

In France, by contrast, the central state blocked the development of local lines until the main trunk lines were laid, and dictated where the trunk lines would go and which cities they would serve – and which they would not (DOUKAS [1945]). Railroad entrepreneurs could choose from hundreds of different publicly initiated projects in America in the 1840s and 1850s; whereas they could choose from only a handful in France and could not initiate projects on their own. American governments initiated many more projects and supported most privately initiated projects (PICARD [1887]).

Some argue that while the French state did not fully finance, or manage, the railroads, the state determined where the lines would be built and in that sense was responsible for railroads. It is important to note that the American government determined where the lines would be built as well, for virtually every private railroad was built at the behest of state and local governments that contributed funds for the construction of the specific routes they desired. Government as surely planned the railroads in the United States as it did in France, but the planning was decentralized because government itself was decentralized. Citizens came to view this government activity as synonymous with private, community, action, and that is precisely my point. This was certainly government action. In a polity with a weak central state and with strong state and local governments, states and localities were where the “state” action was. The interesting conundrum is that nineteenth century citizens and twentieth century scholars alike mistake public activity for something else.

The forms of public aid

American and French governments offered parallel forms of in-kind aid to railroaders. Both contributed land, subsidized construction, helped to develop engineering plans, and offered tax breaks. First, in both countries governments provided rights of way. In the United States, most lands were provided by state and local governments, or by the federal government at the request of the

states. In France, lands came from the central state, or from provincial and municipal governments at the direction of the central state. Second, both countries used non-cash contributions to subsidize construction. American governments gave railroads land near the right-of-way that they could later sell to recoup construction costs (ADAMS [1893]; TAYLOR [1951]; DUNLAVY [1991, p. 11]). The French government, which had more cash and less land, subsidized construction by grading the right-of-way and sometimes by actually laying track (PICARD [1915]). During the 1850s, France built over 5 000 kilometers of track, although private railroads provided over 80 % of the capital (DOUKAS [1945, p. 32]). Third, in the United States the Army Corps of Engineers provided rough engineering plans for the railroads that received federal land grants (KOLKO [1965]), and sent engineers to assist in the development of most railroads of any importance (CHEVALIER [1969, p. 274]). In France, state engineers provided preliminary construction plans for virtually all railroads (SMITH [1990]). Finally, America's state and local governments provided substantial tax breaks to prospective railroad-builders, and some made newly-incorporating banks commit resources to railroads (HARTZ [1948]). The French state normally waived tax assessments for railroads in periods of economic decline (KAUFMANN [1900]).

To provide construction capital, American and French governments began by offering cash and moved toward guaranteeing private investments. Governments in both countries made direct grants to, and purchased stock in, early railroads. By the 1870s, governments in both had guaranteed a significant proportion of private railroad capital. In the United States, municipal, state, and federal governments guaranteed the return on railroad bonds from the 1830s. In France, the treasury guaranteed the return on new stock subscriptions from the 1840s, and retroactively guaranteed virtually all railroad stock in 1859. Both kinds of guarantees were designed to attract capital from London money markets (SMITH [1990, p. 672]). In short, government subsidies took remarkably similar forms in the two countries.

In a handful of cases, American local governments had actually built and operated railroads themselves, although always with the idea that this would be temporary. In France, the Third Republic saw a new strategy for dealing with failing railroads. In the 1870s, the state created a national network of the failing lines of the South-West and ran the lines itself. It bought the lines at the original cost of construction, minus public expenditures (THERET [1995]; DOUKAS [1945, p. 40]). The state did this under the dual logic of serving remote regions so as to incorporate them into the republic, and of providing certain military transport should the need arise. Public policy moved toward greater local government autonomy, but of course local governments remained far from their American counterparts. In the 1880s the French state also sponsored railroad construction projects to fight unemployment, but due to the dire state of public finance, it depended on private companies to provide the lion's share of the capital.

Public investment as a proportion of total investment

How do government contributions compare? French government contributions were well documented at the time. American contributions are more difficult to estimate, however transport historians have gone to considerable effort to calculate how much, all told, hundreds of state and local governments contributed. Most analysts include the value of public land grants, cash grants, stock purchases, and bond purchases in their estimates but exclude the face value of bond guarantees that governments did not have to make good on. For purposes of comparison, I follow this practice by excluding the face value of American bond guarantees and of French stock guarantees, as well as the value of engineering assistance (of negligible value) and tax incentives.

For the U.S., it has been estimated that state governments provided 40 % of the capital employed to build railroads in the 1830s and 1840s, and that up to the Civil War, local and state governments provided between one quarter and one half of railroad capital (DUNLAVY [1991, p. 12]; GOODRICH [1968, p. 66]; LOCKLIN [1954, p. 107]). Much of the financing for trunk lines came from states in the 1830s and 1840s; much of the money for regional lines came from municipalities in the 1850s and 1860s (SEAVOY [1982]). Conservative estimates put total local and state contributions to railroad construction at about 25 % of costs before 1875. Contributions that resulted from federal legislation passed by 1872 have been estimated at \$504,600,000, or another 25 % of total cost. The bulk of federal contributions came in the form of land grants, but substantial sums came from direct bond purchases and loans as well (LOCKLIN [1954, ch. 6]). Total public investment in railroad construction has been put at \$1,282,000,000, and the lion's share of that investment came before 1875 (LOCKLIN [1954, p. 118]).

Taken together, regional and federal government contributions total roughly 50 % of railroad capital down to 1875, but how much of this came in the form of bond guarantees that did not entail cash outlays? LOCKLIN [1954, ch. 6] estimates that about 20 % of state and local aid came in the form of guarantees on private bonds, and about 13 % of federal aid came in the same form. If we discount the state and local aid, which amounted to about 25 % of total capital, by 20 %, then direct state contributions amount to about 20 % of total capital. If we discount federal aid, which also amounted to about 25 % of total capital, by 13 %, then direct federal contributions amounted to about 22 % of total capital. Taken together, government aid amounted to about 42 % of total capital by this estimate (LOCKLIN [1954, p. 111]; CLEVELAND, POWELL [1909, p. 218]).

A parallel figure for France is calculated by estimating the value of direct public aid, excluding the potential value of stock guarantees. The French treasury estimated cumulative public contributions itself in 1875, including the value of land, construction aid, and cash. By 1875, the treasury had contributed 1,371,000,000 ff. (15 %), localities had contributed 41,000,000 ff. (less than one-half of one percent), and the companies had raised 7,991,000,000 ff. (85 %)

privately (DOUKAS [1845, p. 39]). Bruno THÉRET's [1995] fine-grained investigation documents the percent of funds that came from public sources in every five-year period between 1820 and 1914. Before the 1840s the state contributed nothing. In the 1840s, state contributions amounted to approximately 25 %. Between 1850 and 1875, the state contributed less than 10 % of capital invested in railroads. The percentage increased after that, as the state nationalized failed railroads and ran them in a public network, but of course running bankrupt lines to serve sparsely populated regions was a very different project from that of building a railroad system. French state contributions amounted to 15 % of the total cost of rail construction before 1875.

Calculating public contributions is an inexact science, particularly for the United States, where thousands of different governments were involved and where railroaders often forged their accounts to show private contributions that had never been paid in. The data suggest that American governments provided two to three times as much of the capital used to build the main rail lines as did the French state. American government contributions outstrip French government contributions even if we do not count U.S. land grant contributions. Actual government contributions do not appear to explain differences in national perceptions of rail finance.

Political Ideology

Did the United States and France come to such different conclusions about the roles of public and private action in railroading because they began with different political ideologies? Did an American ideology of *laissez faire* and a French ideology of *étatisme* lead to different readings of recent history?

Between the 1820s, when railroad technology appeared, and the 1870s, when the main trunk lines were completed in each country, leading American and French politicians espoused ideologies of government leadership in development (DUNLAVY [1993]; KAUFMANN [1900]). Political leaders in both countries subscribed to “developmental” rather than “exploitative” ideas about infrastructural industries (GOODRICH [1960, p. 7]). They argued that railroads, canals, banks, and like industries must be built ahead of demand, to create demand, and that only the government could muster the resources to do this. This view differed substantially from the “exploitative” and *laissez faire* ideas then current in Britain, which prescribed that infrastructure be built by private entrepreneurs to exploit existing demand.

At the same time, there were groups in each country that argued against public leadership in railroad development. American Democrats, in the tradition of Jefferson, feared that government domination of firms would threaten economic liberty. This led them to oppose government direction of industry, but not to oppose subsidies from states and municipalities. French followers of Adam SMITH, particularly private-sector engineers, feared that government would be an inefficient entrepreneur. They succeeded, in the context of fiscal

constraints, in preventing the state from contributing more generously to the railroads.

American and French ideas about the appropriate level of government action certainly differed. In the U.S., Federalists and Whigs favored federal leadership, but the Democrats who ruled Washington for most of the period backed state and local leadership. The French were more of a single mind; those who favored government initiative believed that Paris should take the initiative.

The United States

In the years following the War of Independence, America's rival political parties held different views of the role of government in development. While Alexander HAMILTON's Federalists championed federal leadership, Thomas JEFFERSON's Democratic-Republicans came to favor state and local government leadership. Federalist President John QUINCY ADAMS sponsored an array of canal and turnpike projects, but Democrat Andrew JACKSON, who won the presidency in 1829 at the dawn of the railway age, called on the states to initiate public works (CLEVELAND, POWELL [1909, p. 96]). While Democrats argued against federal subsidies, they backed state-level public initiatives alongside Federalists and Whigs. The new Whig Party took on the pro-state mantle when it won the White House in 1840, and pushed the expansion of the federal role for three terms. Between 1825 and the late 1850s, then, politicians of all stripes supported government initiative at one level or another. The Civil War stalled infra-structural projects, but after the Civil War LINCOLN's new Republican Party undertook a massive public reconstruction campaign under the leadership of Andrew JOHNSON.

The leading politicians of the day, then, favored government-led development. The consequence, in Andrew SHONFIELD's [1965, p. 303] words, was that "At times the degree of tutelage which state governments arrogated to themselves in Jacksonian America appears so extreme that it suggests the direct inspiration of Colbert, rather than anything that belongs to the Anglo-Saxon tradition". In the case of railroad construction aid: "No ambitious town could stand idly by and see a new railroad go to a rival place. There was no option but to vote bonds" (RIPLEY [1912, p. 38]).

American developmentalism was not the rarefied ideology of the political elite (SEAVOY [1982]; HARTZ [1948]; HANDLIN and HANDLIN [1947]). Farmers, merchants, and shippers championed developmentalism (DUNLAVY [1994, p. 125]). As CHANDLER argues of the politics of early public railroad finance, "In the early years of the Republic, American merchants and shippers gave strong support to government construction and operation of costly rights-of-way" (CHANDLER [1977, p. 82]). Regional groups argued that endeavors of truly public purpose were the natural province of government. As the Ohio Canal Commissioners wrote in 1825, "Nothing can be more interesting to the whole community than the great navigable highways through the State ... It does not consist with the dignity, the interest, or the convenience of the State

that a private company of citizens or foreigners (as may happen) should have the management and control of them” (quoted in CALLENDER [1902, p. 155]). The result, in the words of Lively; “The elected official replaced the individual enterpriser as the key figure in the release of capitalist energy” (LIVELY [1955, p. 81]). Thus the main debate among America’s political parties was not over *whether government* should promote development, but over *which level of government* should take the lead.

While political leaders did not oppose government subsidies, they did oppose government domination of private enterprises, which they characterized as tyrannical (CHANDLER [1977, p. 82]). This concern is often mistaken for opposition to public subsidies, but in nineteenth-century political rhetoric the two issues were distinct. Massachusetts’ Commissioners of Railroads articulated the two principles side-by-side in 1871, arguing for government sponsorship: “It now seems to be generally conceded that some provision for the construction of a certain amount of railroad facilities is, in this country at any rate, a matter of public charge” [1871, p. viii] but against government domination: “The public opinion of the Commonwealth unquestionably accepts with great reluctance any measure calculated to bring industrial enterprises within the influence of politics” [1871, p. lx].

Support for public leadership began to change in the 1870s, by which time railroad aid scandals led the federal government and over a dozen states to repudiate public assistance to private corporations. As a consequence of these repudiations, state indebtedness – which had risen steadily from \$13 million in 1825 to \$353 million in 1870 – declined in the next decade (BRYCE [1912, v. I, p. 529]). When these scandals hit, Americans did not fall back on an underlying belief in *laissez faire*, because political leaders had yet to embrace such a belief (ADAMS [1886 [1954], p. 66]; see also MCCRAW [1984, p. 77]). *Laissez faire* ideology spread in the United States too late to shape Americans’ conviction that private enterprise was responsible for the railroads. Seymour Martin LIPSET [1963, p. 52] dates the spread of *laissez faire* ideas to the rise of Wall Street late in the century and the declining need for public funds. Others link it to railroad scandals of the 1870s. As Andrew SHONFIELD [1965, p. 302] argues, “In nineteenth-century America the attitudes towards public authority did not – at any rate until the last quarter of the century – acquire the ferocious doctrinal consistency which they assumed early on among the English.”

France

In France as well there was substantial ideological support for state leadership in economic development, but the French were not of one mind. Many political leaders held up Britain as an example and advocated liberal development policies.

The French ideology of developmental statism is often traced back to Cardinal Richelieu who, in the early seventeenth century under Louis XIII, centralized state power and built French trade. The moniker for the French version of

mercantilism, however, comes from Louis XIV's minister of finance, Jean Baptiste COLBERT, who subsidized industry and planned royal roads, canals, and harbors. France had traditionally provided guarantees of various sorts to private investors in undertakings of public importance. This had led some to expect a public role in the financing of infrastructure (DOUKAS [1945, p. 44]).

The legacy of COLBERT was not difficult to identify in French political ideology of the 1830s and '40s. Many argued that the state was better suited to develop railroads than were private entrepreneurs. As Adolph THIERS, a future minister of public works and future Third-Republic president, argued in the early debates, "Thinking of nothing but immediate profit, [private railroads] would sacrifice the proper routing of a line to avoid an expense or go out of the way to meet with great profit" (quoted in SMITH [1990, p. 670]). The idea that the state could be more efficient than private enterprise, because it could take the long view rather than focus on immediate profits, was widespread.

Both the left and the right fashioned ideologies to support etatisme. The socialist followers of Saint-Simon backed scientific state control of industry as a means to modernizing the economy and undermining the aristocratic tradition of private property (AUDIGANNE [1868]). Monarchists backed government control of industry as a means to enhancing the power and prestige of the Crown. Because France was a republic when main rail lines were planned and built (1830-1875), with the notable exception of 1848-52, the views of both camps were aired widely.

While COLBERT's ideas remained influential in the France of the early 1800s, liberalism was in the air as well. When they proposed a huge public canalization project in the 1820s, public engineers faced substantial opposition from liberals in Parlement. When it came to railroads, Louis BECQUEY, the director of the government's transport engineers (Corps des Ponts et Chaussées), argued for privatization with the logic of Adam SMITH (SMITH [1990, p. 663]). Government engineers and politicians alike had been influenced by SMITH's ideas, and many argued that private enterprise would be more efficient than the state. After the July Revolution of 1830, liberal bankers came to dominate the regime of Louis Philippe and installed one of their own, Simon BÉRARD, as head of the Corps. BÉRARD advocated the British model of allowing private companies every liberty in developing canals and railroads (SMITH [1990, p. 666]). BÉRARD and the liberal Anglophile bankers in his circle lost control of the Corps after two years, but liberals remained influential.

It was largely these liberal bankers, in collaboration with the private-sector engineers associated with France's premiere private engineering school, the *École Centrale*, who defeated Corps' director Émile LEGRAND's 1838 parliamentary proposal for a publicly built national rail network. Faculty and Alumni from the *École* argued that the state would build the railroads in the most expensive manner possible, and advocated private financing and operation on the British model (SMITH [1990, p. 671]). Railroad promoters also spelled out the benefits of private initiative and finance. In an 1839 report the Paris à Rouen company argued:

Private industry avidly supports progress, because progress is the foundation of its success. It proceeds without rest with investigations and reports. There are no methods that it does not investigate and attempt to incorporate in its own works that might increase economy and speed. (quoted in LECLERCQ [1987, p. 163])

While the French had a long tradition of public direction of infrastructure development, a growing group espoused laissez faire and private initiative as the means to industrialization (HAYWARD [1986]; SHONFIELD [1965]).

Liberalism declined at the École after the state issued regulations in 1857 governing construction and rolling stock, for the liberals had lost on an important front, but in 1871 the new elite school for political studies, “Sciences Po”, took up the cause of liberalism by teaching the political economy of Adam SMITH and J.B. SAY (SMITH [1990, p. 684]). Thus during the 1870s, just when the French were crediting the state with the rail network, liberal economic thought remained popular in France. Political ideology alone clearly does not explain the French conviction that the state built the railroads.

As Bruno THÉRET [1995] has argued, French state participation in railroad finance was very much in the tradition of state participation in industry under the ancien regime. State engineers had a strong interest in directing where the railroads would be built, but elites held the nation’s purse strings and resisted the idea of vast public expenditures on railroads. The crown had established royal monopolies in a number of sectors in order to bring private funds to projects that were partly public in purpose, and the state now did something quite similar, establishing railroad monopolies to win private capital.

In both the United States and France, public capitalization of infrastructure was supported by the main political camps when the railroads were being planned and built. It was dislodged in America by a version of British *laissez faire* thought, but only then did French and American thought begin to diverge on the matter. Moreover the French were not so blinded by Colbertist ideology as to be immune to arguments about the efficiency of private enterprise. Liberals had defeated proposals for a state rail network. If American and French railroad observers came to different conclusions about the importance of public finance, it was not because ideology blinded each group to reality.

The Institutional Construction of Public and Private

Neither political ideologies of the day nor the intensity of public initiative can account for how the Americans and the French interpreted railway development by about 1875. I argue that the form of public policy produced different interpretations of railroad development. In America, the dispersion of political authority among state and municipal governments seemed to locate sovereignty in the separate communities. Americans often failed to distinguish state and municipal action from private action and thus failed to see the substantial government role in railroad finance. The separation of powers among the executive, legislative, and judicial branches contributed by representing the government as an arena of conflict rather than as a unitary actor. In France, the

centralization of political authority located sovereignty in Paris. The French often gave the state credit for railroad construction when it was not due. The unification of state powers contributed by representing the state as a unitary actor capable of orchestrating economic growth.

These characteristics of state structure – the dispersion of authority and separation of powers in America and the centralization of authority and unification of powers in France – would affect how railroaders perceived the actions of the state.

The Construction of American Railroad Finance

How dispersed authority blurred the line between government and community

Having fought Britain's colonial rule, the writers of America's Constitution sought to instill sovereignty in the individual communities that made up the nation, allocating political authority to the lowest possible level of government. Substantial authority resided, as TOCQUEVILLE [1945, p. 92] observed, in the separate states. Their "legislative bodies daily encroach upon the authority of the [federal] government, and their tendency" is to appropriate that authority "entirely to themselves." In matters of industry, the Constitution gave Washington power over interstate commerce, but otherwise permitted states and localities to do as they pleased. The system of business regulation that emerged "lodged control in the separate states rather than in the national government" (SKOWRONEK [1982, p. 122]).

By locating political sovereignty in the hundreds of communities that made up the United States, the writers of the Constitution guaranteed that policy decisions would be made in state capitols and in town meetings. As an Indiana judge argued in 1854, in a ruling on local railroad aid, "in this country the political tendencies are centrifugal" (quoted in GOODRICH [1960, p. 289]). After the War of Independence, the line between community and government was difficult to draw. The informal community meetings of the colonial era shaded into the formal town meetings of the new nation. In the contemporary mind, the town meeting was the community. Government stock purchases, land grants, loans, and bond guarantees in aid of railroads were perceived as instances of community self-determination. Americans viewed the activities of the several states and many municipalities not as government activities at all. French and American government promotion were strikingly similar – two instances of community self-determination, but at different levels of aggregation. Or two instances of government meddling.

The American view can be seen in the debates surrounding early railroad capitalization. Policy-makers described the actions of regional governments as community actions, treating the fact that government provided the channels for action as incidental. What differentiates America from its peers, argued C.F. ADAMS, is that "local governments had the authority to take these promotive measures, and that the smaller communities were willing to incur such heavy charges for them" (GOODRICH [1960, p. 289]). ADAMS' view of the role

of regional governments is illustrative. As Massachusetts' first railroad commissioner, he saw railroads receive generous aid from state and municipal governments. ADAMS became a railroad executive, helping to run the interstate cartel for New York - Chicago traffic before being recruited to direct the Union Pacific Railroad. As head of the Union Pacific, he ran one of the two important railroads to benefit from both federal bond guarantees and land grants. Despite his intimate personal history with public aid to railroads, Adams would write of the American railroad system, "It grew up untrammelled by any theory as to how it ought to grow; and developed with mushroom rapidity, without reference to government or political systems" [1893, p. 116].

As a result of this American blurring of the line between public and private, a successful Colorado railroader could boast, without paradox, that he had succeeded "without a subsidy of any kind" and then go on to enumerate his success at winning bonds from three different counties (GOODRICH [1960, p. 12]). Carter GOODRICH argues that this widespread delusion results from Americans' tendency to treat local government action as private action. Nineteenth-century "Commentators on internal improvements, contemporary and modern, have written as if the word governmental were a synonym for federal" (GOODRICH [1960, p. 12]).

It was not that American railroaders were unaware of their dependence on municipal, county, and state aid. As one railroad president wrote in 1888, in calculating where to build new lines, railroaders had considered "First the amount of [local government] aid ...; second, the relative cost ... third, the amount of business to be derived" (H. Ledyard quoted in COCHRAN [1965 p. 129]). Americans discussed state and municipal aid as community aid because they equated local government with community.

How separated powers cast the government not as actor but as arena

The framers of the Constitution sought to preclude tyranny in the federal government by separating powers among the executive, legislative, and judicial branches. By retaining Britain's common-law legal system and by installing judicial checks on the authority of the executive and legislative branches, the framers gave one branch the power to write laws, another the power to execute laws, and a third ultimate say over the constitutionality of laws as written and executed. America's presidential system further divided the power to make law between congress and the executive.

The separation of powers made the government look like a battleground rather than a unitary actor. Conflicts over whether and how to aid railroads were aired in the media, and as a consequence Americans came to see their government as internally fragmented, and as an arena for working out conflicts rather than as a unitary actor.

Conflicts among the federal branches over railroad aid were legion. In the 1860s, a host of Congressmen and two different vice presidents accepted bribes to vote generous pledges to railroads, and were caught and sanctioned by Con-

gress. General Land Office rulings about federal land grant appropriations were regularly overruled by the Supreme Court and by Congress. The courts overturned legislation in aid of railroads, building on common law principles and constitutional law (KOLKO [1965]; SKOWRONEK [1982, p. 28]). These conflicts made great political theater and sold newspapers like little else could. In France, by contrast, politicians differed on rail policy, but the various branches of government generally stood firm behind the policy of the day.

Political battles in the United States encouraged railroaders to play the branches off one another, treating the branches as strongholds occupied by self-interested office-holders. When the General Land Office sought to deny land grants to transcontinental railroads that had not completed construction on schedule, the railroads fought to win over the courts and Congress to their cause (HANEY [1910]; GOODRICH [1960]). The government became the arena where the different branches, and their allies in the private sector, worked out the course of public action.

Conflicts among branches of state governments were also common, for state governments had adopted the federal model of separated powers. They made equally compelling newspaper copy. Administrators regularly implored state legislatures to limit their commitments to railroads, only to be ignored by kickback-hungry representatives. In 1838, for instance, Tennessee's state legislature committed to matching private stock subscriptions for new turnpikes and railroads. The legislature continued to vote subsidies even after a recession had halted railroad construction. By 1845 Governor James G. JONES implored the legislature, "In the name of the honor of the State, issue no more bonds" (quoted in GOODRICH [1960, p. 156]). This drama was repeated in virtually every state, as legislatures promised lavish subsidies to crooked and incompetent railroad promoters. In the years after the Civil War, legislative generosity led Pennsylvania, Maryland, Indiana, Illinois, Michigan, and Minnesota to default on their obligations to railroads. Eight southern states defaulted on reconstruction-era railway bonds (CLEVELAND, POWELL [1909, p. 239]). State executives regularly chastised legislatures for over-committing state treasuries.

State legislatures blamed executives for these excesses. To prevent governors from promising further public contributions to railroads, legislators in many states amended state constitutions. By the mid-1870s, sixteen state legislatures had sworn off future aid (LOCKLIN [1954]; GOODRICH [1960, p. 231]). As California Governor Newton BOOTH lamented in 1879, "All through the Western and Southwestern States bankrupt towns and tax-ridden communities bear witness to the fact that the habit of voting subsidies was once as popular as it is now odious" (quoted in CLEVELAND and POWELL [1909, p. 236]). When the press reported on these inter-branch contests, disagreements, and rivalries, the public came to see federal and state government alike as fragmented and disunited.

This made it difficult for Americans to see the government as the prime mover in railroad development. While governments had acted with an astonishing singularity of purpose between the 1830s and 1870s, providing nearly half

of the capital for early railroads, the well-publicized internecine battles of the era obscured this fact. In France, by contrast, the unification of powers prevented branches from overruling one another and ensured that disagreements would be aired in private.

The separation of powers contributed to the decline in public industrial leadership, many argue, by undermining public management of railroad aid. As Dunn argues, graft was common because “Civil service laws and rules did not exist or were not enforced, and practically all public officials and employés were selected, retained and dismissed for political reasons” (DUNN [1913, p. 9]; see also CLEVELAND and POWELL [1909, p. 232]; MEYER [1903, p. 18]). Thus state governments swore off railroad aid and limited county and local contributions, and in the 1870s Congress swore off future land grants after the Credit Mobilier scandal.

The Construction of French Railroad Finance

Despite the fact that the French railroads were initially privately owned and operated, and that only a small network of failing lines had been nationalized before 1937, the French came to think of the railroads as public undertakings. Richard von Kaufmann, the turn-of-the-century German historian of French railroads, characterizes the French view of the role of the state in railroad development; “In France, the idea that has always prevailed, which the heads of State of the country have proclaimed, ... is that the State is the absolute proprietor of the railways; it gives the momentum, the direction necessary to the development of the networks” [1900, p. vii]. It was the location of sovereignty in the central state, and the unity of action of the branches of the state, that reinforced this view.

How centralized authority caused the French to credit the state with railroads

The French came to view the state as the prime mover in rail development in large part because Paris prevented regional governments from promoting railroads and prevented private parties from building the railroads they desired. Parliament could do this because the political turmoil of the nineteenth century had not altered the French principle of political sovereignty. Whether France was a monarchy, an empire, or a republic, sovereignty was located in Paris (TOCQUEVILLE [1955]). In republican France, the centralization of sovereignty corresponded to a form of democracy in which there could be no intermediaries between citizen and state. Independent regional entities, whether fiefdoms, corporations, or municipal governments, threatened the link between citizen and state that was the foundation of democracy.

Like the United States, the French republic emerged from a series of regional political units. However, absolutism had centralized governance and sovereignty in France. Local political centers and local militias were replaced by a central political order during the territorial unification that began in 1285 and culminated in 1453. Central military control through the establishment of a

standing army in 1626 completed the process. On the Continent, Otto HINTZE [1975, ch. 5] has argued, recurring border threats eventuated in standing armies and political absolutism virtually everywhere. In France, seventeenth- and eighteenth-century monarchs struggled to expand the powers, and sovereignty, of the central state at the expense of local nobles (BIRNBAUM [1979]; FISCHER and LUNDGREEN [1975]; MACHIN [1977]; ANDERSON [1974, p. 17]).

The centralization of sovereignty survived the political upheavals of the eighteenth and nineteenth centuries to become part of the foundation of French republicanism. Parisian bureaucrats carried the head of state's will to local governments and private citizens. The centralization of authority resulted in a capacity to carry out policy that was unparalleled in the West (HAYWARD [1982, p. 116]). Virtually all political initiative emanated from Paris. As Robert GILPIN depicted the French system: "French society ... places all political authority in the national government; the result is an administrative and political centralization that limits all initiative to Paris and the higher echelons of the ministries" (GILPIN [1968, p. 79]).

Political centralization shaped the French vision of railroad finance, first, by preventing localities from initiating their own lines and, second, by quashing privately initiated lines. First, as in the United States, decisions about where to apply public capital came from the government. But in France, the central state prevented local and provincial governments from initiating railroads. Whether Worcester would become a major center of manufacturing and transport was very much in the hands of the government of Worcester. Whether Lyon would become a major center was entirely in the hands of the state's engineers.

Several of the earliest railroads, such as the coal-carrying line from Andrézieux to St Étienne chartered in 1823, had been backed by local governments (LEFRANC [1930, p. 301]). But Paris denied regional governments power to grant railroad charters and eminent domain, and the Parisian bureaucracy soon stopped granting charters to lines advocated by regional and local governments. When Gironde and Loiret deputies lobbied Parlement to authorize railroads to serve their regions in the 1830s, Parlement handed over route decisions to the state engineers to remove them from the realm of politics (LEFRANC [1930, p. 321]; France, *Moniteur Universel* [1833, v. 86, n. 120, p. 1206]). Thereafter the provinces could win lines neither by offering charters and subsidies, nor by lobbying Parlement. This changed under the Third Republic, for the state responded to economic crisis in the 1880s with public works plans that would reduce unemployment, and in that period regions and the companies themselves were able to influence route plans, in no small part because they state now depended on the companies to finance new construction in order to increase the ranks of the employed (DOUKAS [1945, p. 43]). But in the heyday of railroad construction, municipal interests were excluded from the planning process.

One consequence of planning system is that while American rail routes zig-zagged so that railroads could collect monies from every town that would contribute, the French railroads followed the engineer's dream of a series of un-

wavering lines radiating from Paris. In France, local and provincial governments had little say, and could rarely sway a railroad to make a detour. Despite legislation from the 1850s requiring regional governments to contribute toward construction costs, by 1870 localities had provided less than 1 % of the costs of railroad construction (DOUKAS [1945, p. 37]; PICARD [1918, p. 26]).

Centralization also shaped the French vision of railroad finance by preventing private parties from building the railroads they desired. In Britain, the state had granted charters to virtually all comers. In the United States, governments had eagerly offered a charter to anyone who could draft a route plan, and in practice financed entrepreneurs who would build the routes public officials favored. In France, by contrast, the state refused to grant charters for privately initiated lines. Between 1823 and 1833, Parlement refused charter applications from thirty different groups, on the grounds that the lines they proposed did not serve the national interest (VILLEDEUIL [1903]; LEFRANC [1930, p. 212]). They gave the nod to only a handful of charter applications. Then in 1833, Parlement established a moratorium on new charters until the Corps des Ponts et Chaussées (Bridges and Highways) could develop a comprehensive national route plan. Political turmoil and regime changes stalled passage of the plan that the Corps devised, with the effect that the moratorium lasted nine years until an 1842 act authorized a network fanning out from Paris (DUNHAM [1941]). Thereafter, Parlement continued to refuse to consider unsolicited charter applications from private parties. If an entrepreneur sought to build a line, he had to build one of the small number of lines the state's engineers had approved.

In short, by refusing to allow municipal and provincial governments to promote railroads, and by refusing to allow private parties to build the railroads they desired, the French state brought railroad development to a virtual standstill for over a decade, and by most accounts it slowed the development of railroads through the end of the century. By 1841 France had scarcely one-tenth the railroad route mileage of the United States (DOUKAS [1945, p. 21]). The paradox that resulted was this: rather than blaming the state for slowing rail development, the French gave credit to the state for whatever lines it did authorize.

As in the cases of turnpikes and canals, the French state monopolized decisions about which routes would be built. Despite the fact that private parties built most lines, the French came to see state control as tantamount to state construction. In the discussions of France's first national railway commission of 1837, parliamentarians argued that it was the inalienable duty of the state to build the railroads. One argued: "the State has the right and duty to execute all of the major railway lines, ... and I don't think it can delegate this right of sovereignty" (quoted in Adam 1972, p. 31). As Jean-Paul Adam, the historian of early French railroad policy, concluded of the debates in the 1820s and '30s, "The construction of all major means of transport is analyzed as a right of sovereignty of the state, which has, on the other hand, a duty to assure the profit of the collectivity" [1972, p. 29].

Soon after early railroads had shown success, the French were overestimating the importance of public largesse. The 1858 report of the Compagnie de l'Ouest, attributed the growth of the industry to public backing, arguing that the state should continue to lead the industry;

This government has been strongly applauded because of admirable growth in national wealth; it has been too widely praised for the push it has given to great enterprises for us not to follow its initial lead. Consequently we must give [the state] our confidence. (quoted in AUDIGANNE [1862, p. 143])

How unified powers cast the state as a unitary actor

French policy varied substantially over time, as the government developed different approaches to underwriting railroad construction. In each period, however, the different units of the state stood as one behind the policy of the day. When the government decided at first to aid railroads by grading the route, the legislature, the administration, and the courts stood behind the decision. When the government decided in 1859 to aid railroads by guaranteeing stock returns, these units backed the decision. It was not so much that there was greater consensus about rail policy in France; Rather, it was that state powers were unified and thus discord between branches was aired in camera. Once the government established a course of action, bureaucrats and jurists rarely challenged that course in public.

Whereas the powers of the American government had been separated to create a form of democracy that would be inoculated against the tyranny of the center, the powers of the French state had been unified to create a form of democracy that would be inoculated against the local strongholds that had threatened the ancien regime.

At the core of the state was a strong administrative branch composed of publicly trained technocrats. That branch survived the political changes of the eighteenth and nineteenth centuries. TOCQUEVILLE concludes that the republican government of France took the same form as the ancien regime:

since [17]89 the administrative system has always stood firm. ... For though in each successive revolution the administration was, so to speak, decapitated, its body survived intact and active. The same duties were performed by the same civil servants ... in the name of the King, then in that of the Republic, thereafter in the Emperor's. (TOCQUEVILLE [1955, p. 202])

In France, then, the state was not an arena for working out political conflict, but a unified actor pursuing one version of the public good. The revolution reinforced this view in the early 1790s, disassembling some 40 provinces and replacing them with more than twice as many weak departements with little autonomous power, in the name of preventing the rise of local strongholds.

The French state had, according to public officials and private commentators, taken the long view in backing railroads. The role of the state, they argued, was to take a wider view than localities might, a broader view than the administration or legislature alone might, to build railroads for the future prosperity of France. In the late 1870s, when the growth of the rail network was threatened

by a recession, Charles de FREYCINET, the Minister of Public Works, argued before the Senate that the state must rise above the short-term concerns of accountants and engineers. Of the view that projected receipts should repay initial capital with interest, he argued; "Such reasoning is a private reasoning, a commercial reasoning, or the reasoning of a merchant, but it is not the reasoning of a man of State. ... There is an enormous savings realized by the public in these transportation projects. There is also massive public income in the form of taxes" (quoted in PICARD [1918, p. 287]). The French view was that only a state that can sit above the petty concerns of its sub-units and of private parties can recognize, and act on, the nation's long-term interest.

In short, the unification of powers led the French to perceive the state not as an arena of conflict, but as a unitary actor that could rise above the conflicts of the day to pursue the long-term interest of the nation. Despite dramatic swings in rail finance policy, the unity of state action at each point in time encouraged the French to perceive the state as decisive and purposive actor.

CONCLUSION

What generated the American belief that the railroads were the product of private initiative and the French belief that they were the product of public initiative? These beliefs were well entrenched as early as 1875, even before railroad construction was complete. I have tried to show that it was the structure of the government, not the magnitude of public contributions and not the ideologies of the prevailing political camps. The claim of economic historians, that the French state was generous to the railroads and American governments were not, is belied by the numbers: American governments provided a greater proportion of railroad capital. The claim of students of political ideology, that *laissez faire* sentiments colored American perceptions and that *étatiste* sentiments colored French perceptions, is belied by political history: the prevailing camps in both countries favored government leadership in transport industries. Despite roughly similar levels of public contributions and similar national sentiments about government leadership, the Americans and the French took very different lessons from their experiences with railroad finance.

In France, the view of the centrality of the state in social and economic life was of course nothing new, and as Pierre ROSANVALLON [2004] has recently argued, the view that corporate intermediaries play little role in society because they threaten the political supremacy of the state has been a surprisingly stable fiction for some two centuries, even as intermediaries play greater and greater roles.

I have not been able to explore how power shaped these outcomes, and it may well be that French technocrats pushed the statist view and American financiers pushed the private-action view (PERROW [1987]; ROY [1997]). But I have shown that the lessons French and American citizens took from railroad

experience depended, at least in part, on two characteristics of political order, the dispersion of sovereignty and the distribution of government powers. First, the American government was organized to effect community self-determination. Sovereignty and decision authority were dispersed among the regional governments, and this helped to blur the line between community and (state and local) government. By contrast, the French state was organized to effect absolute control over the nation. Sovereignty and decision authority were centralized in Paris, and this led the French to give the state credit for railroad development even where credit was not due. Second, in the American government powers were divided between executive, legislative, and judicial branches of government. The separation of powers led Americans to see the government as an arena for conflict resolution, and an indecisive and conflicted actor. By contrast, in the French state powers were unified. The unification of powers led the French to see the state as a decisive, singular, actor.

These characteristics shaped how citizens perceived the role of the government in the emerging industrial economy. In each country, a broad template of industrial order emerged from experiences with this pioneer of modern industries, the railroads. In each country government structure shaped this template by influencing who citizens credited with railroad development. Railroading was by no means the only industry in which government promotion in the United States was quickly forgotten, and in which private actors were credited for public achievements. In banking, canals, and manufacturing industries, state and local governments had been active early promoters and Americans soon forgot their roles (CALLENDER [1902]; HANDLIN AND HANDLIN [1947]; HARTZ [1948]; GOODRICH [1960]).

These templates have had lasting effects. Public activism continues to be interpreted differently in the U.S. and France. When America's federal government capitalizes new industries, as in the cases of semiconductors and aircraft, its efforts are framed as market stimuli or as purchasing agreements. Large contributions of federal capital are translated in public discourse into efforts to catalyze private markets. By contrast, when the French government helps to capitalize industries, as in the cases of telecommunications or automobiles, its efforts are portrayed as industrial *dirigisme*. Even small contributions of capital are translated in public discourse into government leadership in industry. The rise of a supra-national state that forbids member states to subsidize industry, the European Union, may be changing that view in recent years (DOBBIN [2001]). With strict controls on public contributions to industry, French governments more often emphasize the relatively small role of public capitalization.

In America, the tradition of local industrial policy continues. As Otis GRAHAM, Jr. [1991] has argued following in the footsteps of Louis HARTZ [1948], Carter GOODRICH [1965], and Seymour Martin LIPSET [1965], state and local governments promote industries on their own initiative. Government aid has taken the form of tax incentives, capitalization assistance, infrastructure subsidies, enterprise zones, and like measures to attract and assist enterprises ranging from supermarkets to textile factories to sports stadiums. America's

current industrial policy looks much like policy during the railway age, and Americans still confound state and local action with private action.

What are the implications of these findings for the analysis of policy formulation? Institutionalists in political science have been increasingly interested in the role of ideas in policy formulation (THELEN, STEINMO [1992]). The prevailing metaphor is of “social learning.” Policy-makers and laymen learn through experimentation with new policies, and change their policy prescriptions on the basis of that learning. The underlying causal model is essentially Kuhnian. It depends on a realist, normal science, vision of policy-making.

Thus Hugh HECLLO [1974] argues that policy elites design new policy with the lessons of past policy successes and failures. Margaret WEIR and Theda SKOCPOL [1983] find that policy approaches evolve over time as a consequence. Peter HALL [1993] takes the idea one step further, to argue that dramatic policy changes follow the pattern found in scientific paradigm shifts. In these models, public administrators and politicians learn from past experiences. Political ideologies become institutionalized in “policy paradigms” (HALL [1993]; DOBBIN [1993]) which carry both rationales for particular courses of action and policy instruments ready for implementation. I do not so much argue against this idea as amend it. In the case of railroad promotion, experience alone did not shape the learning process. Both America and France experienced successful mixed public-private ventures in railroading, but because their governments were organized very differently public action was perceived very differently. What they took from the experience was colored by the form of public action.

The bigger argument here is in many ways consistent with Guy SWANSON's [1967] argument that regime structure shaped religiosity during the Reformation – that centralized regimes were consistent with the notion of religious immanency found in Catholicism, while decentralized regimes were more consistent with Calvinism. Regime structure appears to have a similar sort of effect on economic paradigms that emerged in the United States and France. As I suggested at the outset, the argument is broadly consistent with that of Mary DOUGLAS in *How Institutions Think* – that embedded in modern, rationalized, institutions are clear causal designations. Government structure clearly embodied very different causal ideas in these two countries.

In France, where public contributions to railroad construction were relatively modest, policy-makers and railroaders alike depicted the state as the leading force in railroad finance. In the United States, where public contributions were at least as generous, and likely three times as generous, policy-makers and railroaders depicted the government as a very minor player in railroad finance. The consequences of these diverse interpretations of the public role in rail finance were dramatic. Americans came to emphasize the efficacy of private action in economic development and to support private leadership in future industrial development. The French came to emphasize the efficacy of public action in economic development and to support public leadership in future

development. The lesson to be drawn about political learning appears to be that what matters is not what the state does, but how it does it.

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