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## REFERENCES

# REGULATION AND THE THEORY OF LEGISLATIVE CHOICE: THE INTERSTATE COMMERCE ACT OF 1887*

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T HE economic effects of federal regulation cannot be explained apart from congressional institutions. Two factors determine the specific pattern. The first is how interests are represented in the Congress, especially in the relevant committees. Committees matter because their members can veto proposals made by others. The second factor is bicameralism. The need to build majority support in two chambers matters when interest groups are not distributed identically across both houses. Specific interests win in the legislative process because of their representation within the political institutions.

We examine the first major regulatory agency, the Interstate Commerce Commission (ICC), founded in 1887. The inception of the ICC was not solely a cartel mechanism for the railroads (as the pure capture view asserts) nor solely a mechanism to correct market abuses by the railroads (as the public interest theory maintains). The ICC provided an array of

benefits, some to railroads and some to nonrailroad interests, notably shorthaul shippers.

Our analysis contains three components. First, we develop a theory of legislative choice. Second, we study the effect of the instruments proposed to regulate the railroads. Third, we analyze the incidence of various bills and derive testable implications on how congressmen would vote among the alternatives. Because proposals had different expected economic effects across geographic regions, we can test hypotheses about the expected economic effect of the legislation by studying the voting decisions of representatives of these regions.

Three sources of evidence support our interpretation: the incidence analysis of the various bills, our empirical results from the voting analysis, and evidence of others about the actual effects on railroad prices.[1] We conclude that the legislation did not provide railroads with a cartel manager but was instead a compromise among many contending interests. Organized antirailroad groups gained important restrictions on railroad pricing in some markets; the railroads benefited by earning supracompetitive profits in others. The net effect of regulation on railroad profits was small but positive. The most important effect of the Interstate Commerce Act (ICA) seems to have been a transfer of wealth among customer classes, specifically, from longhaul to shorthaul shippers.

This article proceeds as follows. Section I reviews prior economic models of railroading and shows why previous tests of the effect of the ICC have not resolved the issue of who benefited from the ICC. Section II focuses on the political economy of interest groups and develops the multi-interest group perspective necessary to study the problem. Section III presents our model of legislative choice and derives its implications for regulation. Turning to the political battle over regulation, Sections IV and V reveal that the politics parallel the economic distinctions developed in Section II. Section VI tests the hypotheses concerning economic effect using logit analysis of congressional voting.

## I.   A REVIEW OF RAILROAD ECONOMICS

The railroad network was a complex system of interrelated markets.[2] We distinguish two important categories of markets, the so-called shorthaul and longhaul markets. Longhaul markets are those served by several railroads and were naturally competitive. The railroads attempted to car-

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[1] See, for example, Paul MacAvoy, The Economic Effects of Regulation: The Truck Line Railroad Cartels and the Interstate Commerce Commission before 1900 (1965).

[2] John R. Meyer et al., The Economics of Competition in the Transportation Industries (1959); and Ann F. Friedlaender, The Dilemma of Freight Transportation Regulation (1969).

telize these markets and met with some success.[3] Shorthaul markets, however, were served by a single railroad. They were naturally monopolistic and were characterized by discriminatory pricing.[4]

These two markets are illustrated in Figure 1. This figure also shows that shorthauls were often a segment along a particular longhaul route. Out of Chicago, there were four major competing roads to the East Coast (according to Ulen, 73 percent of all dead freight out of Chicago is bound for Europe). Along each of these routes were a series of shorthaul monopoly routes. Reflecting the different market structures, shorthaul prices tended to be significantly higher than prices charged for the longhaul of which they were part.[5]

The pattern of pricing generated two separate sources of political support for regulatory intervention. The railroads sought regulation to improve their unstable private cartels.[6] Shorthaul shippers, conversely, sought regulation to alleviate discriminatory pricing.[7] The literature has also provided considerable evidence about the regulatory effects of the

[3] MacAvoy, *supra* note 1; Robert Porter, A Study of Cartel Stability: The Joint Executive Committee, 1880–86, 14 Bell J. Econ. 301–14 (1983); and Thomas Ulen, Cartels and Regulation, (unpublished Ph.D. Dissertation, Stanford Univ., December 1979).

[4] There is an extensive literature, mainly by historians, focusing on the effects of discriminatory pricing and especially on the political reactions by various groups. Important studies include Lee Benson, Merchants, Farmers, Railroads (1955), on New York merchants; Solon Buck, The Agrarian Crusade (1920), on farmers; Gerald D. Nash, Origins of the Interstate Commerce Act of 1887, 24 Pennsylvania History 181–95 (1957), on Pennsylvania oil producers; and George Miller, Railroads and the Granger Laws (1971), on the commercial centers of the older water transportation system. Several economists have analyzed the basis for this pricing system, for example, Meyer *et al., supra* note 2; and Friedlaender, *supra* note 2.

[5] These price differentials were generally not justifiable solely on the basis of cost differentials. See the discussion in MacAvoy, *supra* note 1, ch. 3, esp. at 30–32. Much of the debate in Congress was over this issue. See Lewis H. Haney, A Congressional History of Railways (1908).

[6] This aspect of political demand for regulation is studied extensively by Paul MacAvoy, *supra* note 1; Gabriel Kolko, Railroads and Regulation: 1877–1918 (1965); George Hilton, The Consistency of the Interstate Commerce Act, 9 J. Law & Econ. 87–113 (1966); Robert Spann & E. W. Erickson, The Economics of Railroading: The Beginning of Cartelization and Regulation, 1 Bell J. Econ. 227–44 (1970); Ulen, *supra* note 3; and Richard Zerbe, The Costs and Benefits of Early Regulation of the Railroads, 11 Bell J. Econ. 343–50 (1980).

[7] This aspect of the demand for regulation is studied extensively by historians and political scientists, as well as by economists. Among the former are Buck, *supra* note 4; Benson, *supra* note 4; Marver Bernstein, Regulating Business by Independent Commission (1955); Samuel P. Huntington, The Marasmus of the ICC, 61 Yale L. J. 467–509 (1952); Albro Martin, The Troubled Subject of Railroad Regulation in the Gilded Age—a Reappraisal, 54 J. Am. Hist. 339–71 (1967); Miller, *supra* note 4; and Nash, *supra* note 4. Among the latter are Friedlaender, *supra* note 2; and Meyer *et al., supra* note 2. More generally, see the recent summaries of these literatures by Morris P. Fiorina, Legislator Uncertainty, Legislative Control, and the Delegation of Legislative Power, 2 J. L. Econ., & Org. 33–51; and Stephen Skowronek, Building a New American State (1982).

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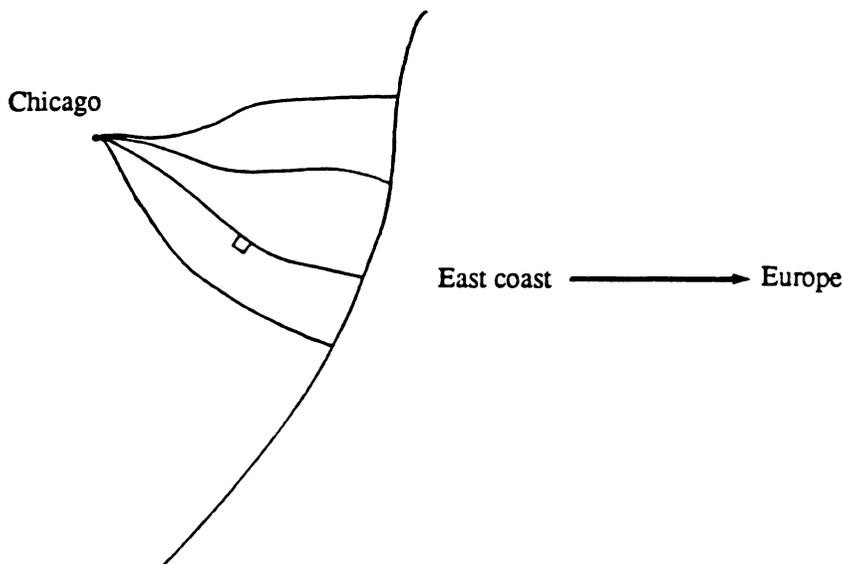


FIGURE 1.—Alternative routes from Chicago to the East Coast

Interstate Commerce Act and is nearly unanimous on the following: shorthaul prices declined while longhaul prices increased. This pattern clearly benefited shorthaul shippers and harmed longhaul shippers.[8] The effects on the railroads, however, are more controversial. Were longhaul prices higher because regulation improved the railroads' private cartels[9] or for some other reason? Ulen, for example, notes that the success of the private cartels was positively correlated with the business cycle.[10] Since the ICC began during an upswing, Ulen's analysis predicts an increase in longhaul prices even without a government-supported cartel.[11]

The following comparative statics analysis of regulatory pricing makes

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[8] See, for example, MacAvoy, *supra* note 1; Spann & Erickson, *supra* note 6; Friedlaender, *supra* note 2; and Zerbe, *supra* note 6.

[9] As argued in MacAvoy, *supra* note 1; Kolko, *supra* note 6; and Spann & Erickson, *supra* note 6.

[10] Ulen, *supra* note 3; and Thomas Ulen, Railroad Cartels before 1887: The Effectiveness of Private Enforcement of Collusion (1982). See also the extensive analysis by Porter, *supra* note 3.

[11] Furthermore, Zerbe, *supra* note 6, challenges the results of Spann & Erickson, *supra* note 6, showing that their calculations were incorrect. His recalculations show that the gains to nonrailroad interests appear to exceed those to railroads.

the issue of the effect of the act on the railroads even more puzzling.[12] One of the chief regulatory mechanisms of the ICA, the shorthaul pricing constraint (SHPC), made it unlawful "to charge or receive any greater compensation . . . for a shorter than for a longer distance over the same line, in the same direction, the shorter being included within the longer distance." To meet this constraint, railroads would both lower shorthaul prices and increase longhaul prices. Even if the ICC played no direct role in facilitating the railroads' ability to coordinate and maintain prices above the competitive longhaul price, the SHPC would have increased longhaul prices. Moreover, we show elsewhere that the effect of the SHPC on railroad profits is indeterminate.[13] The SHPC could have increased railroad profits without facilitating longhaul railroad cartels.

Several hypotheses attempt to explain the inception of regulation. The first holds that railroad regulation was designed primarily to provide the railroads with a cartel mechanism to replace their unstable private ones. The second hypothesizes that regulation sought to benefit shorthaul shippers at the expense of the railroads by eliminating shorthaul price discrimination. These two hypotheses have received the lion's share of attention. In what follows, we add a third: that regulation was designed to benefit both shorthaul shippers and railroads at the expense of longhaul shippers by lowering shorthaul rates and increasing longhaul rates. This need not have involved a governmentally managed cartel for the railroads, as the discussion of the SHPC suggests.

The evidence provided by MacAvoy and others about the decrease in shorthaul prices appears to rule out the first hypothesis, but not the second and third. To discriminate between the latter, we need to show that both shorthaulers and railroaders expected to benefit. We do so in three ways. First, by studying the legislative process, we show the evolution of the regulatory proposals toward a compromise benefiting these two groups. Second, the analysis of congressional voting reveals that both these groups expected to benefit while longhaulers did not. This reveals how the coalition expected to produce mutually beneficial legislation. Third, elsewhere we use stock market analysis to show that the expected profits for longhaul railroads were positive.[14]

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[12] The following results are derived in Thomas W. Gilligan, William J. Marshall, & Barry R. Weingast, The Interstate Commerce Act of 1887: The Political and Economic Consequences of the Shorthaul Pricing Constraint (unpublished manuscript, Stanford University, November 1988).

[13] Id.

[14] Id.

## II.   POLITICAL ECONOMY OF INTEREST-GROUP FORMATION

The simple cartel-by-design thesis, based on a dichotomy between con-centrated producers and diffuse consumers, fails to capture the underly-ing economic and political realities of the late nineteenth century railroad controversy. The struggle over the ICA was not simply the railroads against an undifferentiated set of consumers. The analysis instead re-quires a multi-interest-group perspective.[15] Benson put this as follows. In the process of developing their paramount economic position, the rail-roads "had to affect adversely other powerful vested interests. Since those interests were unable to protect themselves according to the old rules of the economic game, they proposed to rewrite the rules."[16]

Consider some of the diverse but geographically concentrated groups with an important stake in railroad pricing practices. Merchants across the United States depended on the rails for their livelihood. City by city, they formed associations to influence their political representatives. Many (for example, those shipping from New York to the hinterlands) faced only one railroad and therefore monopoly prices.[17] Similarly, the rise of the railroads dramatically affected commercial interests that domi-nated the old river towns along the traditional water transportation routes (for example, those in the Mississippi and Ohio River valleys). Lower-cost railroads displaced whole local economies as hundreds of local col-lection points that depended on water traffic became technologically ob-solete.[18] Just as today's displaced groups provide political support for a host of relief programs, so did these groups. Similarly, dramatic transfor-mations in the industrial organization of particular markets followed the rise of the railroads.[19] While the rise of new industries displaced older

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[15] The analytical versions of this theory allow us to account for bias in favor of a compro-mise among many different groups in regulatory contexts that involve many interest groups. See, for example, Morris P. Fiorina, Representatives, Roll Calls, and Constituencies (1974); and Sam Peltzman, Toward a More General Theory of Regulation, 19 J. Law & Econ. 211–40 (1976).

[16] Benson, *supra* note 4, at 241.

[17] Benson, *supra* note 4, for example, discusses the rise of a large number of commercial associations and lobbying groups (for example, Cheap Freight Railroad League, the Ameri-can Cheap Transportation Association, National Anti-monopoly Cheap Railway League, Boston Merchants Association, and the Chamber of Commerce of New York City). He also describes the coordination of many of these groups with various congressmen. Clearly, these groups provided electoral support for nonrailroad positions.

[18] Miller, *supra* note 4.

[19] For a colorful description of this transformation, see Alfred D. Chandler, The Visible Hand (1977).

producers, the latter did not simply vanish. Rather, they organized to seek relief.[20]

Finally, with the coming of the rails, farmers had become specialized participants in international markets.[21] As producers, they had a direct pecuniary stake in railroad pricing. But they were clearly not of one voice. Farmers in the Midwest often faced a single railroad and, hence, discriminatory pricing, while farmers in the states west of Chicago seemed to benefit from competitive longhaul pricing. Since farmers were the most diffuse group, theirs is unlikely to have been the most active lobby.[22] Yet, their clear pecuniary interest implies that representatives of districts where farmers were the vast bulk of constituents would have shared their constituents' preferences.[23]

Thus, a host of nonrailroad interests had a stake in market intervention. Both sides were organized. Showing that different groups provided support for particular types of market intervention is one thing: showing how these sometimes conflicting interests led to legislation providing benefits to their coalition is another. How were these interests coordinated (if at all), what provisions did they seek, and were they successful?

## III.  THE THEORY OF LEGISLATIVE INSTITUTIONS

The political battle over federal railroad regulation covered more than a decade and was played out in Congress.[24] Understanding the effects of the ICA and its consequences for the economy requires understanding congressional institutions and their effect on policy choice. A comparison of the different proposals from this perspective yields testable implications about how specific congressmen could be expected to vote.[25]

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[20] See, for example, Benson's description of the older cattle ranches in upstate New York, *supra* note 4. These were in the process of being driven out of business by newer cattle ranches in the West, made economically viable by the coming of the rails.

[21] See the discussion in Allen Bogue, From Prairie to Corn Belt (1963).

[22] As Benson, *supra* note 4, shows.

[23] In modern times, it is precisely this mechanism that underlies the political support for current agricultural programs benefiting this group.

[24] While the President retained a veto over any congressional legislation, he appears not to have been an active player in this controversy and thus receives scant attention in the literature and in what follows. We conjecture that, since so many different constituencies were mobilized on this issue, and that—as we argue below—the compromise appears to have required the support of most of these, any widely supported legislative compromise would be deemed satisfactory by the President.

[25] One prefatory remark is necessary. While railroad regulation by the ICC during most of the post–World War II era included comprehensive political control of the industry (for example, pricing, entry, and exit), the battle over the ICA in the 1880s concerned a considerably different form of regulation. It was not a bill to regulate railroad rates, though it

Congressional institutions are well known to shape legislation. In what follows, we make use of two key institutional features: (1) bicameralism: a necessary condition for enacting legislation is that each house of Congress pass a version of the bill; and (2) committee veto power: if the House and Senate pass different versions of the same bill, they must be reconciled through a conference procedure. If the two sides fail to agree on identical versions, the bill does not become law. The compromise is fashioned by a subset of members from the relevant committees in each house. Any legislation they produce faces an up-or-down vote (that is, no amendments are allowed).

The implications of these institutions are as follows. The first implies that, when different interests dominate the different houses, each interest, in effect, holds a veto over legislation. Together with the theory of revealed preference, the second implies that, if a compromise occurs, the interests represented at the compromise must expect to be made better off under the compromise than under the status quo.[26] Because the different alternatives have varying incidences, incidence analysis yields predictions about the voting behavior of individual representatives. In order to develop these predictions, however, we need to appropriate theoretical tools, and to these we now turn.

### The Theory of Legislative Choice

In developing techniques to study legislative choice of regulatory instruments, we follow Fiorina and Weingast.[27] We begin with the assump-

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contained important provisions affecting prices; nor did it address entry or exit. Rather, the political battle was fought over specific practices. As we show below, these had clear incidences with predictable effects for different groups. The act provided no powers for the ICC to set rates. Reagan, the proponent of the House bill, is quoted as saying, "One of the greatest troubles I have had even with the friends of legislation in this direction has been to get them to understand that this time [the Reagan bill] is not a bill to regulate freight rates. . . . I know the difficulties which would attend any measure attempting to prescribe rates" (Haney, *supra* note 5, at 309). When, several years later, the ICC attempted to set rates, the Supreme Court held the action beyond its statutory authority (ICC v. Cincinnati, N.O. & Tex. Pac. Ry., 1897). In modern times, we are accustomed to delegating considerable discretion to regulatory agencies with no (substantive) holds barred. But this was not the case for the ICC. While the ICA contained language similar to that used in modern grants of discretion—for example, "All rates shall be just and reasonable"— phrases of this type did not attain their current meaning until well into the twentieth century with the development of administrative law.

[26] The prohibition of amendments on the vote over the final compromise conveys significant discretion. It allows the conferees to choose, subject to the majority constraint, which of the many policies becomes the final bill. The important power of the conference procedure is analyzed in Kenneth A. Shepsle & Barry R. Weingast, Foundations of Committee Power, 81 Am. Pol. Sci. Rev. 85–104.

[27] Fiorina, *supra* note 15; and Morris P. Fiorina, Legislative Choice of Regulatory Forms:
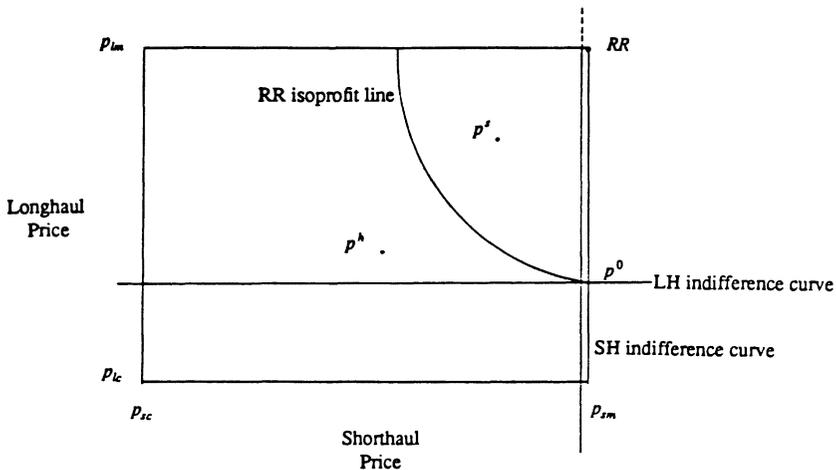
FIGURE 2.—Policy choice space with legislator preferences

tion that each legislator's preferences are based on the electoral contest he faces; in particular, each is assumed to maximize his electoral support based on the mix of interests in his district.[28] Each, therefore, has an ideal point, that is, a policy alternative that maximizes his electoral support. Further, each prefers alternatives closer to his ideal to those farther away.

We argued in Section II that the railroad controversy was actually two separate controversies, one involving shorthaul pricing and one involving longhaul pricing. The preferences of different interests varied over policies that affect these two problems. To be more precise about the relationship between legislator preferences and policy choice, we consider a two-dimensional set of policy alternatives. Let the horizontal dimension be the price over shorthauls which may range from the competition price, $p_{sc}$, to the monopoly price, $p_{sm}$; and let the vertical dimension be the price over longhauls, which may range from the competition price, $p_{lc}$, to the monopoly or cartel profit-maximizing price, $p_{lm}$. This yields a two-dimensional policy space that is a compact subset of $R^2$, as depicted in Figure 2.

Legal Process or Administrative Process? Public Choice (1982). Barry R. Weingast, Regulation, Reregulation, and Deregulation: The Political Foundations of Agency-Clientele Relations, 44 Law & Contemp. Prob. 147–48; and Barry R. Weingast & Mark J. Moran, Bureaucratic Discretion or Congressional Control: Regulatory Policymaking by the Federal Trade Commission, 91 J. Pol. Econ. 765–800.

[28] This approach to legislators is standard. Both Fiorina, *supra* note 15, and Peltzman, *supra* note 15, for example, study policymakers of this type.

Also shown in Figure 2 are several ideal points. A legislator representing solely a railroad constituency, for example, prefers alternatives in the upper right corner, that is, $(p_{sm}, p_{lm})$. Since the upper contour sets of railroad profits are convex over this price space, their profits fall off as we move farther away from this point. Presumably, their representatives shared these preferences. The ideal of a representative from a district dominated by shorthaul shippers is along the vertical axis. We assume that shorthaul interests—and, hence, their representatives—care solely about shorthaul prices. An indifference curve through any point is a line that parallels the vertical axis. We can also depict the preferences of longhaul shippers. We assume that they care solely about longhaul prices. A longhauler's indifference curve through any point is a line that parallels the horizontal axis.

Finally, we have also depicted the status quo, $p^o$, on the figure. It is at the monopoly shorthaul price, $p_{sm}$, since railroads were free to charge the monopoly price in these markets. We place $p^o$ somewhat above the competitive longhaul price. While cartels were not governmentally supported, they were not strictly illegal in the preregulation environment; nor were they totally ineffective.[29]

The implications of this framework are twofold. First, it allows us to show how various regulatory instruments would alter the status quo. Thus, a policy legalizing pooling, the major mechanism underpinning the railroads' cartel, would raise longhaul rates and can therefore be represented as a vertical move from $p^o$ (see Figure 3). A bill that combines a prohibition on pooling with an SHPC would move primarily left and down from the status quo.

Second, this approach allows us to show the divergent strategies of the two coalition leaders. Confronting the status quo, $p^o$, each attempted to devise a set of legislative provisions that would move prices in a direction preferred by his constituents. For the railroads' representatives, this meant policies above, or above and to the left of, the status quo. For representatives of the shorthaul shippers, this meant policies to the left of the status quo. For illustration, we show plausible locations for the legislative proposals of each coalition: $p^s$ represents the bill favoring the railroads produced in the Senate, while $p^h$ represents the bill favoring shorthaulers produced in the House (see Figure 2). By varying the proposed bill, the coalition leaders determined which legislators joined them and which opposed them.

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[29] Porter, *supra* note 3.

Longhaul
Price

SHPC          ↑ Pooling

                    ↖          $p^0$

SHPC and   ↙
Anti-pooling   ↓ Anti-pooling
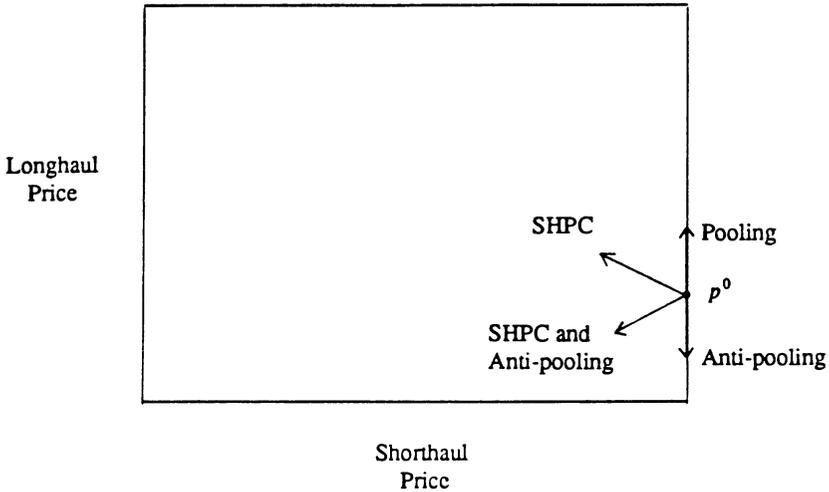
Shorthaul
Price

FIGURE 3.—How various proposals alter the status quo

## IV. THE REGULATORY PROPOSALS: THE HOUSE VERSUS THE SENATE

By the mid-1880s, two major coalitions of interest groups had formed. Each had its congressional sponsor who devised a proposal to benefit its constituency. There is nearly unanimous agreement that railroads dominated the committee with jurisdiction in the Senate, while shorthaul shippers dominated the corresponding committee in the House.[30] This pattern of dominance is assumed throughout, and is therefore a maintained hypothesis of the analysis.

The political controversy over the ICA was not simply debate between competing ideals; it was a battle over instruments and control mechanisms. To understand the ultimate incidence of the ICA, we analyze three sets of instruments: those preferred by each side, those proposed by each side, and those in the final bill.

### The Railroad Bill

The railroads' ideal legislation provided for a stable cartel upholding monopoly prices (as shown in Figure 2), and included the following fea-

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[30] Widespread agreement exists on this point. See, for example, Kolko, *supra* note 6; Hilton, *supra* note 6; and Skowronek, *supra* note 7, on Cullom vs. Reagan; see also Nash, *supra* note 4, on Reagan.

TABLE 1

CHARACTERISTICS OF REGULATORY PROPOSALS

| | PROPOSALS | | | |
| MECHANISMS | Railroads | Senate | House | Compromise |
| --- | --- | --- | --- | --- |
| Pooling | Yes | Absent | No | No |
| Published rates | Yes | Yes | Yes | Yes |
| Antirebate | Yes | Yes | Yes | Yes |
| SHPC | Weak | Weak | Strong | Strong |
| Commission | Yes | Yes | No | Yes |

tures:[31] (1) legalization of pooling—the principal means used by the railroads to allocate traffic among themselves; (2) published rates; (3) an antirebate, antidrawback provision; (4) some weak form of SHPC; and (5) a commission malleable to the railroads' interests. These features are summarized in the first column of Table 1. The first feature would play a role in the extracting of monopoly rents and provide the stability necessary to maintain them. Pooling facilitated coordination of the firms making up the cartel; legalization combined with enforcement by a commission would make these agreements far more effective.[32] The remaining features were intended to police cheating on the cartel price. The second and third, and also the fourth, would play this role by changing the costs and benefits from cheating. MacAvoy's discussion of the instruments contained in the final legislation pertains here as well:

Regulation under [these provisions] reduced the profits from cheating on official rates. Under circumstances in which disloyalty did not violate the law, cheating resulted in smaller profits for a shorter period of time under regulation for two reasons. First, any rate cut that was "just and reasonable" had to be extended to all traffic—so that increased profits from cutting rates on grain to NY had to be accompanied by lower profits from required cutting of local rates. Second, the discount had to be announced and announcement—if followed by reduction of the

[31] These items are nearly identical to those proposed by Albert Fink for the railroads to stabilize their cartels. See Gilchrist's analysis of Fink's proposal to provide the legal underpinnings for cartels, D. T. Gilchrist, Albert Fink and the Pooling System, 34 Bus. Hist. Rev. 25–49 (1960). Fink was instrumental to the operation of the railroad cartels prior to the ICA. According to Gilchrist, Fink "occupied a position of prominence analogous to that enjoyed by Morgan."

[32] As Ulen, supra note 3 and supra note 10, shows, pooling was the primary mechanism used to maintain the railroads' private cartels. Legalizing pooling would have greatly improved its effectiveness. See also MacAvoy, supra note 1, ch. 4, at 91–95; and Gilchrist, supra note 31.

official rate—reduced the length of time in which the disloyal firm received larger profits.[33]

These features also changed the incentives to police cheating by other railroads and by other customers not receiving the discount. Reporting the information to the commission would lead to legal sanctions, whereas prior to any legislation, the only available response was retaliation. Under provision 2, tariffs had to be filed with the commission, so charging anything but the published rates was sufficient evidence of violation of the act. The purpose of provisions 3 and 4 was to allow railroads to continue discriminating (charging monopoly prices on the shorthaul), but also to prevent cheating on the longhaul cartel by individual railroads who sought to give specific price discounts. Additionally, the third would mitigate the monopsony power of certain shippers (such as Standard Oil). The fifth provision would blunt the influence of other interest groups on regulation and would allow a commission the flexibility to enforce a stable cartel agreement and to adjudicate disputes among railroads.[34]

This type of commission would clearly serve railroad interests. From the strong opposition of the antirailroad coalition and the large number of citations of railroad influence over the state commissions, this bias seems likely. This inference is also supported by Hilton's report that "writers who favored establishment of a commission in this controversy were uniformly in favor of legalization of pooling"; that is, those favoring cartelization also favored a commission.[35]

The bill put forth by Senator Cullom of Illinois became the major legislative vehicle in the Senate and included some but not all of the above provisions (see Table 1). Its major features were as follows. First, and most significantly, the bill did not legalize pooling. In this important sense, the bill failed to include the major cartel mechanism and was therefore less than the railroads' ideal. The antirebate provision and the published rate provision were included, as was a "weak" and "elastic" SHPC. Finally, the Cullom bill called for enforcement by a commission. A commission was valuable to senators because the Senate confirms ap-

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[33] MacAvoy, *supra* note 1, at 124.

[34] To quote Hilton on the advantages to the railroads from provision 4, appropriately interpreted by a friendly commission: "[The railroads] wanted a prohibition of charging more for a shorthaul than for a longer haul which the Commission might waive so that they might continue the chronic, discriminatory form of long- and shorthaul ratemaking [that is, local monopoly pricing], but avoid the competitive, rate-cutting version of the same practice. For this and for the more general necessity of providing day-to-day stability of the cartels, railroad men characteristically felt that a commission vested with a high degree of discretion in its power was necessary." Hilton, *supra* note 6, at 105.

[35] Hilton, *supra* note 6, at 105.

pointees to the commission and therefore could bias appointees in the railroads' favor.[36]

## The Antirailroad Bill

The antirailroad coalition consisted of more diverse interests than did the railroads. Judge Reagan, a representative from Texas, played the major role in forming the coalition by combining a series of related provisions and pushing them through the House. The logic underlying Reagan's bill is as follows. First, because the unifying factor underpinning this coalition was that nearly all were victims of some form of local monopoly pricing, all favored elimination of this form of pricing discrimination. Reagan's bill therefore included a strong SHPC (see Table 1). Second, they were against cartelization and allowing railroads undisputed and unregulated control over prices. This coalition sought to prohibit pooling because the fall in shorthaul rates under the SHPC depended on the longhaul rate. Pooling implied higher longhaul rates and hence weakened the effect of the SHPC. Third, they favored published rates to ease enforcement of violations. Fourth, a Senate-appointed, railroad-dominated commission was unsatisfactory. Since railroads were sure to be the more active, aggressive participants in any regulatory process, a commission was likely to bend the interpretation of the act in their favor.[37] Hence, a provision for direct enforcement by the courts was preferred. As Fiorina points out, this was the enforcement strategy adopted three years later in the Sherman Antitrust Act.[38] Additionally, part of the coalition was primarily against rebates, drawbacks, and other provisions that gave price breaks to specific shippers.[39]

The diversity of the antirailroad coalition forces us to address a further issue. Because the railroads were sure to be a constant and potentially overwhelming opponent in the postlegislative environment, could the diffuse and varied interests in the Reagan coalition rationally expect to reap benefits once the act passed?

The answer is revealed by the form of the regulatory instruments. The bill did not delegate broad, discretionary powers to a commission, as is common for modern regulatory agencies. Members of the antirailroad

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[36] See Fiorina, *supra* note 27; and Fiorina, *supra* note 7.

[37] There is nearly unanimous agreement on this point. See Haney, *supra* note 5; Hilton, *supra* note 6; and Fiorina, *supra* note 7.

[38] Fiorina, *supra* note 27.

[39] To quote Hilton, *supra* note 6, "the Reagan bill was formulated by . . . an attorney for the Petroleum Producers' Union, a group of shippers in the Pennsylvania oil fields who suffered a chronic, discriminatory form of long- and shorthaul ratemaking. They were also heavily motivated by hostility." See Nash, *supra* note 4, for an extensive analysis of this thesis.

coalition rationally feared railroad domination of a commission. Reagan attempted to minimize interpretive bias in favor of railroads by creating provisions with easy tests that could be applied by the courts: was a shipper charged anything but the published rates? Did the published rates violate a specific provision of the act (for example, was the rate from New York City to Vermont higher than the rate from New York to Chicago along the same line)? Did a specific shipper get a price break not offered to other shippers of the same class? The proposed provisions placed specific, enforceable limits on railroads' pricing behavior with clear incidences in favor of Reagan's coalition.[40] Put simply, the prohibitions were designed to limit the railroads' influence in the postlegislative era.

## Comparing the Two Bills

The major differences between the Cullom and Reagan bills can be summarized as follows (see Table 1): (1) the Cullom bill, while not legalizing pooling, did not prohibit it; the Reagan bill contained an unambiguous prohibition; (2) the antirebate and discrimination clauses differed; (3) the Reagan bill contained a stricter SHPC; (4) the Reagan bill called for enforcement through the courts, while the Cullom bill called for enforcement by a commission.

The railroads' first preference was for legalizing pooling; their second was surely to leave it in legal limbo. The antirailroad coalition, conversely, clearly sought to prohibit pooling; hence its exclusion in the Reagan bill. Regarding the SHPC, the railroads' interest was twofold: first, to maintain their monopoly power between points that lacked competition, and, second, to prevent cartel cheating on routes served by competing railroads. Hence, the clause in the Cullom bill was more ambiguous, and, in part, relied (as Hilton has noted) on judicious enforcement by a sympathetic commission. The members of Reagan's coalition, however, were unanimously against local monopoly pricing and sought a strict clause to eliminate it. The SHPC was undoubtedly a necessary condition for this coalition to support any legislation or compromise. Without it, Reagan's coalition would undoubtedly have blocked any compromise.[41]

[40] Furthermore, the ICA did not require a small number of bureaucrats to contend with an army of railroad representatives over an in-depth analysis of costs, revenue flows, or profits that attend modern rate-of-return regulation. Railroads were sure to have overwhelmed the small commission in this type of process. Haney, *supra* note 5, at 308, notes that, during the debates, "it was urged that so small a number of men could not possibly supervise so great a railway system."

[41] One additional difference between the bills is instructive and provides further evidence of the makeup of Reagan's coalition. The Cullom bill specified that shorthaul rates could not be higher than longhaul rates when one of the termini of the shorter route coincided with a

## V.  ANALYSIS OF THE COMPROMISE BILL

The sequence of regulatory proposals played out over a decade. Bills passed the House in 1874, 1878, and in the lame duck session following the 1884 elections. The first passage of a bill by the Senate occurred in early 1885, also in the lame duck session. However, the two sides failed to reach a compromise, so the bill died. Deadlock again occurred in 1886: the Senate passed its version (May), and the House its version (July), with no compromise forthcoming.

This pattern of radically different bills unaccompanied by compromise forces us to ask whether a compromise was feasible.[42] Reagan represented shorthaul shippers and Cullom, the railroads; committee veto power implies that each interest must be made better off by the compromise. It is not obvious that there existed policies preferred by both sides to the status quo, especially because the interests of the shorthaulers seemed antithetical to those of the railroads. Historians, for example, have provided considerable evidence of the overt hostility of this group to the railroads.[43] Significantly, the theory developed above provides an answer.

Turning to Figure 4, we show diagrammatically that the feasible region of compromise is nonempty. The figure depicts the set of policies preferred to the status quo by each coalition. The set of policies preferred by Reagan to $p^o$, is $H(p^o)$, and the set preferred by Cullom, $S(p^o)$. Reagan was concerned with shorthaul prices and would clearly be willing to trade off increases in longhaul prices for decreases in shorthaul prices. From the status quo, the railroad's isoprofit lines imply that they would trade

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terminus of the longer route. The Reagan bill imposed the same restriction, but on a broader class of routes: it covered all shorter shipments contained within the longer route. Since eastbound traffic out of Chicago and westbound traffic out of New York comprised the lion's share of traffic, the difference was clearly aimed at the smallest of all shippers, for example, those shipping from a small town in Indiana to a small town in Ohio. It is no surprise the railroads were unconcerned about this group. Reagan apparently sought to include these diffuse, though politically active, interests in his coalition. As MacAvoy concludes, the "reductions in short-distance rates . . . provided the smallest of the shippers, seeing the most limited service, with somewhat lower cost of transport." See MacAvoy, *supra* note 1, at 201.

[42] To address this issue, we return to our model of legislative choice. The institutional underpinning of the compromise was the conference proceeding in which a small "delegation" from each chamber met together to forge an agreement. In practice, this meant that Judge Reagan and two of his supporters from the House met with Senator Cullom and two of his supporters from the Senate. Bringing a compromise bill back to the floor of each house required a majority of each delegation to approve the bill. This conveys to each coalition leader the veto power noted above. The absence of any compromise suggests that none of the alternatives preferred to $p^o$ by Reagan and his coalition was preferred by Collum and his supporters.

[43] See Buck, *supra* note 4; or Benson, *supra* note 4.
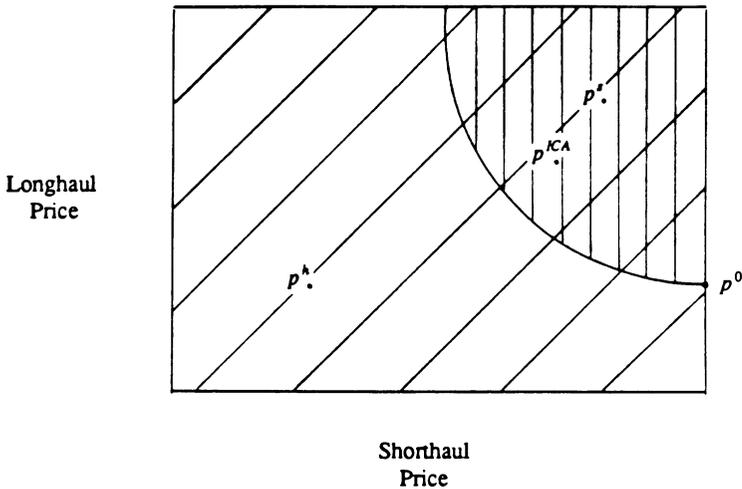
Key

$\boxed{\text{|||}}$ = $S(p^0)$ = Set of policies preferred by Cullom (and the RRs) to $p^0$

$\boxed{///}$ = $H(p^0)$ = Set of policies preferred by Reagan (and SH shippers) to $p^0$

$\boxed{\#}$ = $S(p^0) \cap H(p^0)$ = Region of mutual gain (i.e., of feasible compromise)

FIGURE 4.—Set of feasible compromises between railroad and shorthaul shipping interests.

decreases in prices (and profits) from shorthauls for increases in prices (and profits) from longhauls. This implies a nonempty region of mutually preferred alternatives, $H(p^o) \cap S(p^o)$, representing the set of feasible bargains between two interests (see Figure 4).

The model has several implications. First, in comparison with their original bills, each interest gained less under the compromise. Second, the compromise contained provisions benefiting each so that the package as a whole made each better off than under the status quo. Were this not the case, their representatives would instead veto it.[44]

[44] One further event appears to have determined the timing of the compromise. During the 1886 period of deadlock, with no compromise in sight, the Supreme Court entered the battle. It announced Wabash v. Illinois, a surprise decision striking down state regulation of the railroads attempting to control the rates of commodities hauled in interstate commerce.

by market conditions but rather followed from the imposition of regula-
tory rules."[46] (4) Longhaul shippers seem to have lost: "Through ship-
pers were deprived of any observable benefits. When rates were main-
tained, the grain spreader's costs were increased and Chicago-New York
grain price differences were greater. During seven years of strong regula-
tion, the price difference averaged 6 cents per 100 pounds more than in
the succeeding six years."[47] (5) The compromise, the product of two
groups with diverse interests, necessarily contained some elements pre-
ferred by one side along with elements preferred by the other and omitted
important provisions sought by each. It would thus surely pursue carteli-
zation inconsistently and incompletely. This explains in part the "incon-
sistencies" studied by Hilton.[48] Moreover, Hilton's discussion of how
legislation after 1900 transformed the ICC into a more explicit cartel
manager provides further evidence that the original ICA was not designed
solely for this purpose. (6) Hence, the major effect of participation of the
railroads seems to have been to protect their interests—that is, to make
sure they do not lose too much and possibly gain a little—rather than to
obtain a complete, government-managed cartel. (7) In this sense, the bill
can be interpreted as a redistribution of wealth among customer classes—
specifically, from longhaul shippers to shorthaul shippers.[49] The clear
inference is that several nonrailroad interests expected to gain from the
ICA.

## VI. LOGIT ANALYSIS OF CONGRESSIONAL VOTING

Our analysis suggests major differences between the congressmen who
supported the Cullom bill and those who supported the Reagan bill. Rep-
resentatives of longhaul shippers should favor the Cullom bill over the
Reagan bill. Hence, the West (defined as those congressional districts
whose main roads feed into Chicago) should vote for Cullom; similarly,
those districts containing major cities with two or more railroads to the
East Coast are more likely to vote for Cullom than for Reagan. Second,
shorthaul shippers should favor the Reagan bill. Districts in which most
inhabitants faced only one railroad to the East Coast should be observed
to vote disproportionately for Reagan over Cullom. Third, districts with

[46] MacAvoy, *supra* note 1, at 201.

[47] *Id.*

[48] Hilton, *supra* note 6.

[49] Since a large portion of the longhaul traffic was bound for Europe, a noneligible portion
of this transfer may have been borne by European consumers. The net welfare effects of this
transfer for the United States may therefore have been positive. Whether any transfer
occurred, however, depended on the elasticity of the European price with respect to the
price of American imports.

large concentrations of railroad interests should be disproportionately disposed toward Cullom over Reagan.

This section presents results from the analysis of two votes in the House: the Reagan bill versus the Cullom bill in July 1886, and the vote on the final passage of ICA in January 1887. They allow us to investigate the voting decisions of congressmen over the regulatory proposals studied in Sections IV and V.

## Data

The dependent variables in our analysis are the votes noted above. Votes are taken from the *Congressional Record*.[50] On the first vote, a vote for Reagan is coded as a one, a vote for Cullom as a zero. On the second, a vote for the ICA is coded as a one, a vote against, as a zero.

The explanatory variables are intended to represent the concentrations of railroad, longhaul shippers, shorthaul shippers, and farming interests in each district. The hypotheses derived above yield predictions about signs and significance of coefficients.

1. *Railroad variables.* The *Statistical Abstract* provides data by state on (*a*) the value at cost of railroad property, plant, and equipment and (*b*) annual revenues.[51] The components of (*a*) are combined to produce the variable CAPITAL. The variable ROI is computed as revenues per dollar of capital investment and is calculated on a per state basis.

Railroads were clearly one of the major participants in the political battle. The more important the railroad's operation to the local economy (for example, employment, traffic flows, and as a source of local tax revenue), the greater the influence the railroad should exert on the district's representative. CAPITAL attempts to measure this. CAPITAL has a mean value of .34 and a standard deviation of .28 billion dollars. Moreover, holding constant for CAPITAL, the greater the railroad's stake in a particular area, the greater the influence it is likely to exert. ROI is a proxy for this. ROI has a mean value of 11.07 and a standard deviation of 5.08 percent.

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[50] We have chosen to ignore abstentions but have included the positions of "paired" congressmen, that is, those announcing a position but not voting. These congressmen are coded as if they had voted. Since they are a small fraction of the votes, this does not affect the results. We might have treated an abstention as a position (for example, coded it as a middle category in an ordered probit analysis) except for the following objection. This is not a homogeneous category, but includes both those choosing not to vote and those who were absent but would have voted were they present.

[51] We use gross revenues rather than net income so that income available for distribution to all claimants, rather than only equity, is measured. Thus the effects of what may be arbitrary variations in capital structure are eliminated.

2. *Farmers*.   Fogel provided estimates by state of the value of farm-land. His estimates are based on the 1890 census of agriculture.[52] We use his figures to produce the variable LAND. The more important farmers are in a district, the greater the influence on their representatives. LAND has a mean value of .35 and a standard deviation of .27 billion dollars.

Since the data in paragraphs 1 and 2 above are reported by state, the districts within a state are assigned identical values of the variables.

3. *Other variables*.   The remainder of the data consists of dummy variables identifying differences among the districts that are not readily quantified. CENTER takes on the value one for districts that contained major shipping centers or were served by more than one major carrier.[53] Shippers and merchants in centers face the choice of at least two railroads for transport and are less likely to be victims of railroad monopoly price discrimination. They are therefore less favorable than other districts to the strong SHPC in the Reagan bill. Approximately 17 percent of all districts are classified as CENTER.

A value of one for the variable WEST indicates a district north and west of Chicago. The least-cost route of grain to the East from these districts passed through Chicago over the lines of the Chicago pool members. While shippers in these areas suffered from shorthaul discrimination, the SHPC was significantly less beneficial to them than to the areas east of Chicago. The latter had the longhaul rates out of Chicago constraining their shorthaul prices, while the former, because of the relative absence of longhauls, would not be benefited by the SHPC. Moreover, they would be worse off to the extent that their own rates rose because the SHPC increased longhaul rates from Chicago to the East Coast. Therefore, these areas should be less likely to support the Reagan bill, ceteris paribus. Approximately 9 percent of all districts are classified as WEST.

We also utilize the variable PARTY, which takes on the value of one for Democrats. Democrats appear to have been more favorably disposed toward shorthaul shippers; indeed, Reagan was a Democrat, while Cullom was a Republican. To the extent that parties constrained the behavior of their members, this variable measures its effect. Approximately 56 percent of all congressmen voting in Cullom vs. Reagan were Democrats.

Our specific predictions from Section IV are as follows. Higher levels of CAPITAL imply a lower probability of voting for the Reagan bill; the

[52] To value "pure" farmland, he adjusts for the value of buildings, fences, and improvements. See Robert Fogel, Railroads and American Economic Growth (1964).

[53] These districts include the major grain shipping centers listed in the *Statistical Abstract,* cities with pools overseen by the Joint Economic Committee (the major railroad cartel pooling traffic to the East Coast), the major port cities on the Gulf and the Atlantic, and cities that were evident as hubs on railroad maps.

same holds for ROI. LAND should have the opposite effect on voting: higher levels should increase the probability of voting for Reagan. For the dummy variables, both WEST and CENTER should lower the probability of voting for the Reagan bill.

For the final vote on the ICA, we make the following predictions. Farm representatives (excluding those in the WEST) should vote favorably; representatives of longhaul shippers—shown to be potential losers in Sections IV and V—should be more likely to vote against. We should observe railroads to favor the compromise: veto power held by the railroads' representatives in the Senate suggests that any proposal making them worse off would be vetoed rather than passed.

## Results and Interpretations

The results for the first vote are reported in Table 2 and are remarkably consistent with the perspective presented above. The sign of nearly every coefficient is as predicted and they are statistically different from zero. Looking across all four models, we find the results robust with respect to specification. Both railroad variables are highly significant; an increase in either lowers the probability of voting for the Reagan bill. The variable

TABLE 2

Logit Estimation of House Votes

| | Reagan vs. Cullom | | Compromise vs. Status Quo | |
|---|---|---|---|---|
| Variables | A | B | A | B |
| PARTY | 4.42** | . . . | .62 | . . . |
| | (.62) | | (.38) | |
| CENTER | −2.11** | −.36 | −.57 | −.45 |
| | (.68) | (.45) | (.45) | (.44) |
| WEST | −1.83* | −3.60** | −2.12** | −2.47** |
| | (.82) | (.70) | (.65) | (.62) |
| CAPITAL | −5.48** | −6.07** | −2.45* | −2.47* |
| | (1.17) | (.91) | (1.02) | (1.01) |
| ROI | −.22** | −.23** | −.11** | −.13** |
| | (0.05) | (.04) | (.04) | (.04) |
| LAND | 4.87** | 4.82** | 3.58** | 3.80** |
| | (1.27) | (.72) | (1.12) | (1.12) |
| Log-likelihood | −66.18 | −113.80 | −112.10 | −113.512 |
| % Correctly predicted | 88.7 | 81.2 | 82.0 | 81.3 |

Note.—Asymptotic standard errors in parentheses; 239 observations.
* Significant at the .05 level.
** Significant at the .01 level.

representing farming interest, LAND, positively affects the probability. Finally, both CENTER and WEST are negative, as expected. The results also show that while party appears to have an important effect on voting, it does not affect the sign and significance pattern of the other variables, with the exception of CENTER, which is significant only in the presence of PARTY. In all four specifications, the percentage of votes correctly predicted far exceeds the null model's 56 percent.

To derive the actual effect of the variables on the probability of voting for the Reagan bill, we report some additional calculations in Table 3 based on specification B from Table 2. This reports the change in probability of voting for the Reagan bill implied by the estimated coefficients; these are calculated by holding all other variables constant at their means. A congressman representing a district characterized as a CENTER has a .06 lower probability of voting for Reagan; a congressman representing a district from the WEST has a .33 lower probability of voting for Reagan. We calculate the partial derivative of the probability for the continuous variables. In comparison with a district at the mean of the independent variables, these calculations imply the following: (1) a district with $100 million more railroad capital has a .21 lower probability of voting for Reagan; (2) a district with a $100 million higher value of land has a .17 higher probability of voting for Reagan; and a district with a one percent higher return on railroad capital has a .03 lower probability of voting for Reagan.

Another way to evaluate these estimates is to calculate their implications for specific districts. The probability of voting for the Reagan bill at the mean of the independent variables is .56. For a grain-producing district in southern Minnesota, the probability is .06; western farmers facing low through rates strongly opposed Reagan. But for a farm district in rural

TABLE 3

CHANGES IN PROBABILITY OF VOTING FOR REAGAN

| Variable | $\Delta P$ | $\delta p/\delta x$ |
|----------|------------|---------------------|
| CENTER | − .06 | . . . |
| WEST | − .33 | . . . |
| CAPITAL[a] | . . . | − .21 |
| ROI[b] | . . . | − .03 |
| LAND[a] | . . . | .17 |

NOTE.—Changes in probability are calculated at the mean of the independent variable and are based on specification B from Table 2.
 [a] Per $100 million.
 [b] Per percentage of return.

Indiana containing no centers, the probability is .84. This figure is typical of districts in rural Indiana, Ohio, and southern Illinois and shows that the major farm areas in these states heavily favored Reagan over Cullom. For most of the South, containing few centers, and with greater value of farmland than of railroad capital, the probability is high, above .8, and often above .9. Finally, for eastern centers with large concentrations of railroad property and many railroads, the probability is typically low: for Philadelphia, it is .13.

These results support the perspective developed in Section IV. While railroads appear to have had considerable influence over the legislation, so, too, did other participants. The biggest group that appears to have suffered from local monopoly pricing was farmers. Our estimates imply that their representatives reflected this interest. Western farmers, benefiting from low through rates, were slightly less disposed to favor the Reagan bill. Similarly, commercial CENTERs with significant concentrations of longhaul shippers were less disposed to favor the Reagan bill over the Cullom bill.

The results from the vote on the final compromise (Table 2) provide further support for our hypotheses. First, the effects of CENTER and WEST are both negative. At the mean of all independent variables, WEST lowers the probability of voting for the compromise by .27 (from .83 to .56). The railroad variables are negative while the farm variable is positive, suggesting that farm interests were more likely to support the compromise than were railroads. This does not mean, however, that railroads voted against the compromise—only that they were, on average, less favorable than were farm districts.[54] To see this, we calculate the effect of a large change in railroad and farm variables on the probability of voting for the compromise. As reported in Table 4, adding $300 million in railroad capital lowers the probability of voting for the compromise by only .26 (from .83 to .57). For farmland, this change increases the probability of a favorable vote by .17 (from .83 to ~1). By way of comparison, the same $300 million change for the vote on the Reagan versus Cullom bills lowered railroad support by greater than .56 (from .56 to ~0), while it increased farm support by greater than .44 (from .56 to ~1). These calculations cast further doubt on the hypothesis that the ICC was primarily a cartel manager for the railroads; farm interests were more favorable than railroads and clearly anticipated benefits.

[54] The results—that railroads were not as favorably disposed, on average, to the compromise as farmers—may simply indicate that the legislation also had clear distributional effects across various railroads. Those expecting somewhat lower benefits would have been somewhat less favorable.

TABLE 4

EFFECTS OF SELECTED VARIABLES ON THE ESTIMATED PROBABILITY OF VOTING

| Calculation | Reagan vs. Cullom | ICA vs. Status Quo |
|---|---|---|
| Probability of voting favorably at the mean of the independent variable | .56 | .83 |
| Probability of voting favorably given a $300 million increase in CAPITAL | ~.00 | .57 |
| Probability of voting favorably given WEST equals one | ~.00 | .56 |
| Probability of voting favorably given a $300 million increase in LAND | ~1.0 | ~1.0 |

NOTE.—Calculations are based on specification B, Table 2, in both cases.

## VII. CONCLUSIONS

The primary purpose of this article was to evaluate the anticipated incidence of regulatory legislation by examining the political controversy surrounding its passage. We developed a model of legislative choice and used it to derive implications regarding the characteristics of the final legislation and the voting behavior of individual representatives. Our perspective shows that political institutions play a key role in enfranchising certain groups and endowing others with veto power.

We applied this perspective to the problem of the inception of railroad regulation in 1887. The railroads created two separate, though not completely antithetical, bases of support for regulation: cartel instability on the longhaul and local price discrimination on the shorthaul. Hence two different, opposing coalitions formed, each seeking political gain by rewriting the rules of the economic game.

Several conclusions emerge from the analysis. Far from having a unitary effect, the ICA was a compromise among many contending interests. Shorthaul shippers gained important restrictions on railroad pricing, improving their welfare.[55] River towns and eastern production centers benefited from lessened competition owing to higher longhaul prices.[56] The net effect of the ICA on railroads was small but positive.[57] The ICA did not spawn a formal railroad cartel but did help railroads maintain

[55] MacAvoy, *supra* note 1; and Zerbe, *supra* note 6.
[56] See, for example, Miller, *supra* note 4; and Benson, *supra* note 4.
[57] Gilligan, Marshall & Weingast, *supra* note 12.

supracompetitive prices in longhaul markets by explicitly relating short-
haul and longhaul prices.

Looking beyond the railroad controversy, the analysis has implications
for the development and testing of positive theories of regulation. First, a
multiple-interest-group perspective is frequently necessary to understand
the inception of regulation. Regulation, in many cases, appears not to
follow the stylized pattern of a concentrated producer group against an
undifferentiated, diffuse set of consumers.

Second, the political system is more than a black box that produces
legislation by balancing the relevant political interests. Rather, the form
of regulatory statutes depends critically on the institutions of the legisla-
tive choice process. Recognizing the key features of this process can
enhance the predictive power of regulatory theory. We exploited knowl-
edge about legislative institutions by investigating those interests rep-
resented at specific veto points in the legislative process, notably the
relevant committee in each house of Congress. Interests whose represent-
atives hold veto power can block any legislation that would make them
worse off. In the case of the ICA, this led to the hypothesis that both
shorthaul shippers and railroads expected to benefit from legislation. This
hypothesis is also consistent with our incidence analysis of the bills pro-
duced by each committee. Previous work focused on coalition formation
in passage of regulatory legislation.[58] Application of this approach when
there are two groups is far more straightforward than when there are more
groups. For the former, it is often easy to judge which group is more
concentrated and hence influential (for example, firms vs. consumers);
hence, predictions about policy benefits are straightforward. But when
many active groups are involved, the theory is difficult to apply because it
provides no means to judge the relative influence of each group ex ante.
Our analysis takes this a step further by providing a source of information
about which interests will be successful, namely, those that are advan-
taged as a result of their representation within the legislature.

Finally, the methodology used in this article indicates that a variety of
political data—the pattern of group representation within the political
institutions, the voting behavior of legislators, using incidence analysis to
compare proposed legislation with the final legislation—can be employed
to test theories of regulation. Hypotheses about the economic effect of
regulation can thus be tested using data from the political controversy
over that regulation. Because the relevant economic interests are often
geographically concentrated, hypotheses about the anticipated incidence

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[58] For example, Peltzman, *supra* note 15; and B. Peter Pashigian, Environmental Regula-
tion: Whose Self-Interests Are Being Protected? (1985).

of various bills can be tested by observing the behavior of congressmen from the relevant locations. These conclusions are also supported by the recent work on several aspects of environmental regulation.[59] Institutional analysis of the political process, combined with an economic analysis of the instruments included in the legislation, appears to be a powerful tool for understanding why regulation occurs, as well as for assessing its expected economic effect.

[59] Bruce A. Ackerman & William T. Hassler, Clean Coal/Dirty Air (1981); E. Donald Elliott, Bruce A. Ackerman, & John C. Millian, Towards a Theory of Statutory Evolution, 1 J. Law, Econ. & Org. 313–40; Robert W. Crandall, Air Pollution, Environmentalists and the Coal Lobby, in Political Economy of Deregulation (Roger G. Noll & Bruce Owen eds. 1983); and Pashigian, *supra* note 58.