BEFORE THE
SURFACE TRANSPORTATION BOARD

Ex Parte No. 705

COMPETITION IN THE RAILROAD INDUSTRY

INITIAL COMMENTS OF
WESTLAKE CHEMICAL CORPORATION

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In its Notice served January 11, 2011 in this proceeding, the Surface Transportation Board ("Board") sought comments on various issues of great importance to the railroad industry, rail shippers, and the general economy. 76 Fed. Reg. 2748 (Jan. 14, 2011). Westlake Chemical Corporation (together with its subsidiaries, "Westlake") hereby submits these Initial Comments in response to the Notice.

Interest of Westlake Chemical Corporation

Westlake is an integrated manufacturer and marketer of petrochemicals, vinyls, polymers, and fabricated products, based in Houston, Texas. Westlake has over 11 billion pounds per year of active aggregate production capacity from 15 manufacturing sites in North America. Westlake's business mission is to provide quality products and services to commodity chemical, plastics, and related fabricated products markets, in order to fulfill its business mission, Westlake relies on the railroads to provide timely and reliable transportation delivery service of its products. In 2010, Westlake shipped approximately 22,000 rail cars of outbound rail movements and provided the rail cars for all of these movements, including shipments of hazardous materials. Accordingly, it is necessary that the railroads meet the essential transportation service needs of Westlake, including Westlake's need to move hazardous materials by rail. North American Pipe Corporation ("NAPCO"), one of the subsidiaries within the Westlake group of companies, is a wholly owned subsidiary of Westlake which operates a plant in Janesville, Wisconsin where PVC pipe is made for use in water and sewer services, as well as in construction of homes and other buildings. NAPCO buys polyvinyl chloride ("PVC") from Westlake to make PVC pipe. Westlake ships PVC to NAPCO at Janesville, WI by railroad.

Recently, the Wisconsin Southern Railroad Company prevailed in litigation with the Dakota, Minnesota, and Eastern Railroad Company (now part of Canadian Pacific Railway) to obtain dual-rail access to the NAPCO facility in Janesville. The case is on appeal to the United States Court of Appeals for the Seventh Circuit. Although the United States District Court for the Western District of Wisconsin ruled on the basis of the agreements between WSOR and DM&E when DM&E sold its lines in and around Janesville to WSOR, the District Court said that, had the agreements not resulted in rail-to-rail competition, it would have found the agreements to violate the Rail Transportation Policy in the Staggers Rail Act to promote competition to the maximum extent possible in the rail industry.[1] If WSOR prevails on appeal, NAPCO will have the benefit of rail-to-rail competition there.

Unfortunately, the Janesville situation is not the norm. Westlake and NAPCO seldom encounter true rail-to-rail competition in the chemical markets. Of the 15 manufacturing sites Westlake operates, seven of these sites are captive to one railroad and therefore no rail-to-rail competition exists. For that reason, Westlake is participating in this proceeding to encourage the STB to promote rail-to-rail competition to the maximum extent possible. Doing so would

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[1] *Dakota, Minnesota & Eastern Railroad Co. v. Wisconsin & Southern Railroad Co.,* No. 09-cv-00516–wmc, 2010 U.S. Dist. LEXIS 85695 (W.D. Wisc., Aug. 19, 2010), slip op. at 19 n.12 (emphasis added), *appeal pending,* No. 10-3177 (7th Cir.). The District Court's discussion is quoted *infra.*

not only assist Westlake and NAPCO; it would be of great benefit to the entire U.S. economy.

Background

Legislative Matters. In the Staggers Rail Act of 1980 ("Staggers Act"), Congress partially deregulated the railroads, but retained regulatory jurisdiction over unreasonable rail rates, where shippers did not have "effective" competition for their transportation needs, and retained jurisdiction over railroads' "unreasonable practices," for railroad transportation generally (and without the necessity of a showing of a lack of effective transportation competition).[2]

The Staggers Act supports and encourages the existence of rail-to-rail competition in the marketplace. One of its policies is "To ensure the development and continuation of a sound rail transportation system with effective competition among rail carriers and with other modes, to meet the needs of the public and the national defense." This policy is supported by two other policy statements: "To reduce regulatory barriers to entry into exit from the industry," and "... to avoid undue concentrations of market power...." These policies are consistent with one of the findings of Congress in the Staggers Act, which is that "Greater reliance on the marketplace is essential in order to achieve maximum utilization of railroads to save energy and combat inflation."

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[2] Of course, Congress determined, in the Staggers Act, that the Interstate Commerce Commission ("ICC") should retain jurisdiction over other matters of importance to shippers and the public, such as abandonments, certificates to construct new lines of railroad, railroad mergers, and acquisitions of railroads or lines of railroads. In the Interstate Commerce Commission Termination Act of 1995 ("ICCTA"), Congress again made the same determination.

Unfortunately, these policies were largely not achieved, because the ICC (and later the STB, at least until recent years) concentrated primarily on the alleged revenue needs of the "revenue-inadequate" railroads. The Board's annual revenue-adequacy findings have mostly led to the erroneous conclusion that the railroads are "revenue-inadequate, with only occasional exceptions as to one or another railroad in a given year. Westlake believes that a proper measure of the railroads' financial circumstances would have led to the conclusion that at least the Class I railroads have been revenue-adequate for many years. The mergers and acquisitions of the railroads have actually permitted the opposite of what Congress intended in the Staggers Act: a lack of "effective competition among rail carriers and with other modes, to meet the needs of the public and the national defense," "to reduce regulatory barriers to entry ... into the industry," and "to avoid undue concentrations of market power."

CURE and many other shippers and shipper groups have long maintained that most of the problems with railroad regulation (or the lack thereof) were not the result of the Staggers Act itself, but with the implementation of the Act. But, at least until this proceeding, the ICC and STB have not seriously proposed to implement the pro-competitive policies of the Staggers Act.[3]

[3] The STB instituted Ex Parte No. 575, *Review of Rail Access and Competition Issues*, and Ex Parte No. 658, "*The 25th Anniversary of the Staggers Rail Act of 1980: A Review and Look Ahead.*" However, neither of which produced any significant change in the ICC's and STB's implementation of the Act. In Ex Parte No. 677, *Common Carrier Obligation of Railroads* and Ex Parte No. 677 (Sub-No. 1), *Common Carrier Obligations—Transportation of Hazardous Materials*, in which Westlake participated, the STB considered diluting or restricting the railroads' common carrier obligation. Eventually, however, the STB terminated the Ex Parte No. 677 proceeding, but did not terminate Ex Parte No. 677 (Sub-No. 1). *See* order served January 19, 2010 in Ex Parte No. 431 (Sub-No. 3) and

Frustrated that the ICC and STB doggedly adhered to their policies despite the clear language of the Staggers Act already discussed, Senate Commerce Committee Chairman Rockefeller, on behalf of himself and several other Members of the Senate Commerce Committee, introduced S. 2889 in the 111th Congress. In December 2009, the Commerce Committee approved S.2889 by voice vote. No Senators opposed it. Nevertheless, Chairman Rockefeller indicated that he and the Commerce Committee staff would continue to discuss matters of concern to the U.S. railroads with the railroads, and apparently those discussions went on until June or July, 2010.

However, at a September 15, 2010 hearing before the Commerce Committee, Chairman Rockefeller stated that the railroads did not continue to cooperate with the Commerce Committee in finding a resolution of their concerns. In contrast, Chairman Rockefeller commended rail shippers for their cooperation with his process, stating that the rail shippers had met the Committee half-way, but the railroads had not.

So, the record is clear as to what happened – after agreeing to work with Chairman Rockefeller and Ranking Member Hutchison on a compromise bill so as to cause the STB to reconsider many of its policies, the railroads refused to negotiate in good faith. This proceeding is therefore necessary to attempt to accomplish what the Congress so far has not been able to accomplish.

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consolidated cases; *see* especially footnote 2 (keeping open the Ex Parte No. 677 (Sub-No. 1) proceeding. Westlake believes that the railroads' common carrier obligation is statutory, and may not be altered. If it ever were, the remedies provided shippers under the Interstate Commerce Act would be of little or no value.

As a result of the railroads' intransigence, S. 2889 was not voted on by the entire U.S. Senate during the 111th Congress. Senate Report No. 111-380 accompanying S.2889 was filed in December 2010.[4]

On January 25, 2011, Chairman Rockefeller and Ranking Member Hutchison re-introduced what had been S. 2889 in the 111th Congress as S. 158 in the 112th Congress (except for one section concerning pipelines).

Executive Order. On January 18, 2011, President Obama issued an Executive Order to all "agencies" of the federal government, entitled "Improving Regulation and Regulatory Review.[5]" The purpose of the President's Order is set out in the first paragraph (emphases supplied):

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[4] Also in the 111th Congress, the Senate Judiciary Committee approved S. 146 by voice vote, and the House Judiciary Committee approved H.R. 233 by voice vote. Each bill would have essentially eliminated the railroads' antitrust immunities, in order to promote competition in the railroad industry. A bill identical to S. 146 in the 111th Congress has been re-introduced in the 112th Congress as S. 49. We do not go into detail about that legislation, because it was largely not for implementation by the STB. Nevertheless, the purpose of that legislation also was to promote rail-to-rail competition, as the Board is considering here.

[5] The Executive Order is accessible at http://www.whitehouse.gov/the-press-office/2011/01/18/improving-regulation-and-regulatory-review-executive-order. In that Executive Order, "agency" "has the same meaning as in Executive Order 12866," issued by President Clinton in 1993. Executive Order 12866 states: "'Agency,' unless otherwise indicated, means any authority of the United States that is an 'agency' under 44 U.S.C. 3502(1), other than those considered to be independent regulatory agencies, as defined in 44 U.S.C. 3502(10)." As an "independent regulatory agency," therefore, President Obama's January 18, 2011 Executive Order does not apply to the STB.

Despite the fact that the President's order does not apply to the STB, the Class I railroad Chief Executive Officers went to The White House during the week of January 23, 2011 to complain about the fact that the STB instituted this proceeding. *"Railroads to Meet White House on Industry Issues," Rail Business,* Vol. 17, Jan. 24, 2011 (at 1). Given that the Board has not yet proposed *any* change in its rules or policies in this proceeding, the railroads' heavy-handed effort to impose pressure on the Board is rather extraordinary. If the railroads were as competitive and efficient an industry as their rhetoric in submissions to

> Our regulatory system must protect public health, welfare, safety, and our environment *while promoting economic growth, innovation, competitiveness, and job creation*. It must be based on the best available science. It must allow for public participation and an open exchange of ideas. It must promote predictability and reduce uncertainty. *It must identify and use the best, most innovative, and least burdensome tools for achieving regulatory ends*. It must take into account benefits and costs, both quantitative and qualitative. It must ensure that regulations are accessible, consistent, written in plain language, and easy to understand. It must measure, and seek to improve, the actual results of regulatory requirements.

Westlake endorses the goals of the President's Executive Order, and notes that the Board's Notice in this proceeding is both timely and consistent with the Executive Order. Of particular interest to Westlake is the President's emphasis on "economic growth," "competitiveness," and "job creation." It is the firmly held view of Westlake that much existing rail regulation serves only the interests of the railroads, does harm to the U.S. economy, U.S. manufacturing, and results in a loss of U.S. jobs because of high rail rates and a lack of competition and good service from the U.S. railroads. Clearly, the fact that the STB and its predecessor the ICC approved so many mergers and acquisitions between and among the Class I railroads has only exacerbated the lack of rail-to-rail competition. But Westlake applauds the Board for considering changes in these policies.

Scope of Proceeding.[6] In its Notice (at 2), the Board explained that

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the Board and media "public service" messages and commercials claim, one would have thought they would have no concern about presenting the Board with the facts in this proceeding, rather than complain merely because the Board only sought public comments about the issues it raised, and has not yet proposed *any* change in its policies or rules.

[6] Chairman Rockefeller issued a public statement commending the STB for instituting this proceeding. Westlake is grateful to Chairman Rockefeller for his persistent efforts to promote competition in the railroad industry, and to Ranking

> The rail network in the United States is a series of interconnected lines owned by various rail carriers. Because of the high fixed cost associated with building a rail network, sometimes there is only one railroad serving a particular destination and origin. Some companies that either ship by rail, or would like to do so, have complained about being physically limited to a single rail carrier and would like to have greater access to competition from other railroads. Some shippers have suggested that mandated access by a second carrier to singly served businesses would be in the public interest. Railroads have responded that such an action would undermine their ability to price their services differentially based on demand and that, as a result, they would be unable to earn enough revenue to invest sufficiently in their networks. Over the years, various possible measures that would change the way rail shippers currently obtain access to rail service have been debated, including: (1) requiring railroads to quote a rate between any two points they serve to allow another railroad to serve the shipper from an intermediate point to the final destination; and (2) imposing new rules for competitive access, such as mandated reciprocal switching or mandated terminal use arrangements, including trackage rights.

Westlake notes its agreement with the Board's statement, as far as it goes. But we add that, even where shippers have access to two railroads, in recent years, the two railroads often do not compete, leaving the shippers without competition or a regulatory remedy for the unreasonable rates that inevitably result from a lack of effective competition. Westlake recognizes that the Board's existing "market dominance" policy presumes that the existence of two rail lines into a facility means that there is rail-to-rail competition there, but Westlake believes that the widespread unwillingness of railroads to compete head-to-head for many existing customers can no longer be ignored.

The Board noted that this proceeding comes after more than a decade of experience with the so-called "bottleneck rate" rule:

Member Hutchison, former Senator Dorgan, and Senators Lautenberg, Thune, and other Senators, for their support for STB regulatory reform. Westlake urges the Board to consider Chairman Rockefeller's comments carefully in its deliberations.

> It has been some time since the agency has conducted a thorough analysis of these issues. More than a decade ago, the Board conducted a comprehensive analysis of "captive shippers" and their available remedies for rate relief, as well as the incumbent railroad's rights and obligations. This analysis culminated in a series of decisions collectively known as the "Bottleneck" cases. Cent. Power & Light v. S. Pac., et al., 1 S.T.B. 1059 (1996) (Bottleneck I), clarified, 2 S.T.B. 235 (1997) (Bottleneck II), aff'd sub nom. MidAmerican Energy Co. v. STB, 169 F.3d 1099 (8th Cir. 1999) [, cert. denied, 528 U.S. 950 (1999)].

The Board also noted that it had addressed some of the issues raised herein a "Rail Access and Competition Issues" proceeding in 1998 (although that proceeding did not produce any significant change in the Board's regulation of railroads), and that it had commissioned a study by L.R. Christensen and Associates, Inc. ("Christensen") of the state of competition in the railroad industry:

> The Board also conducted a review of its competitive access standards in Review of Rail Access & Competition Issues, 3 S.T.B. 92 (1998). More recently, in response to a recommendation of the United States Government Accountability Office (GAO), the Board commissioned Christensen Associates, Inc. (Christensen Associates), to perform an independent study to examine these issues. The resulting report, A Study of Competition in the U.S. Freight Railroad Industry and Analysis of Proposals That Might Enhance Competition (November 2009), is available on the Board's website or at http://www.lrca.com/railroadstudy/.

The Board then acknowledged that the circumstances in the railroad industry have changed dramatically since the enactment of the Staggers Rail Act of 1980:

> The United States railroad industry has changed in many significant ways since the Board's competitive access standards were originally adopted in the mid-1980s. Among the more salient developments have been the improving economic health of the railroad industry, increased consolidation in the Class I railroad sector, the proliferation of a short line railroad network, and an increased participation of rail customers in car

> ownership and maintenance, as well as other activities previously undertaken by the carrier. Since 1980, railroad productivity improved dramatically, resulting in lower transportation rates. However, productivity gains appear to be diminishing and, since 2004, overall rail transportation prices have increased. See Christensen Update at i & 3-26. Taken together, these events suggest that it is time for the Board to consider the issues of competition and access further.

Westlake wholeheartedly agrees with the Board that the circumstances in the railroad industry have changed dramatically in the last 30 years, and that that "it is time for the Board to consider the issues of competition and access further."

The Board indicated that it would consider the following specific matters of great interest to rail shippers (footnotes omitted):

> 1. The Bottleneck Issue. A rail bottleneck rate issue arises when more than one railroad can provide service over at least a portion of the movement of a shipper's goods from an origin to a destination, but where either the origin or destination is served by only one carrier, i.e., the bottleneck carrier. In each of the Bottleneck cases, an electric utility company sought to require the bottleneck carrier to establish a "local rate" for a segment of the through movement that was served only by that carrier, so that the utility could combine that local rate with a rate for the remainder of the movement by another carrier. The utilities further sought to be able to separately challenge the reasonableness of the rate for the bottleneck segment of the movement, rather than having to challenge the origin-to-destination rate in its entirety. Each of the utilities in the Bottleneck cases sought to divide the bottleneck carrier's long-haul and through rate into smaller portions that could be priced and, accordingly challenged, independently. The utilities believed that the total charges would be lower if the reasonableness of the rates were adjudicated only for the bottleneck portion of the movement (with the rate set by head-to-head rail competition for the remainder of the movement), rather than for the entire movement. Because the Bottleneck cases raised issues of broad importance, the Board provided for extensive public input and held an oral argument.
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> In the resulting decisions, the Board concluded that a shipper could not routinely direct a bottleneck carrier that was capable of providing origin-to-destination rail service for that shipper to "short-haul" itself by routing traffic over the lines of the non-bottleneck carrier. Rather, the

Board held that a shipper could seek to force an alternative routing that would include the line of the non-bottleneck carrier only if it could show, under 49 U.S.C. § 10705 and the Board's "competitive access" rules developed in Intramodal Rail Competition, that there would be sufficient benefits associated with the alternative routing. The Board also held that, under 49 U.S.C. §§ 11101(a) and 10742, a bottleneck carrier generally cannot refuse traffic from other carriers originating at sources that the bottleneck carrier *does not* serve, even if the bottleneck carrier can carry the identical commodity in its own single-line service from another source. Bottleneck I, 1 S.T.B. at 1063-64.

Finally, for either type of movement—same-source movements for which a shipper has successfully obtained an alternative routing, or different-source movements that the bottleneck carrier cannot handle in single-line service—the Board held that it could not force the bottleneck carrier to quote a separately challengeable rate for the bottleneck segment unless the requesting shipper had already entered into a rail contract for the non-bottleneck segment at the time that the bottleneck rate was requested. In so ruling, the Board relied on the Supreme Court decision in Great Northern Railway v. Sullivan, 294 U.S. 458, 463 (1935), which held that the reasonableness of through rates established by carriers should in general be evaluated from origin-to-destination, rather than on a segment-by-segment basis.

2. Competitive Access. Competitive access can take the form of mandated reciprocal switching, terminal use, or trackage rights. Reciprocal switching involves the incumbent railroad transporting traffic, usually for a short distance, over its own track on behalf of a competing railroad for a fee. Reciprocal switching thus enables the competing railroad to offer its own single-line rate, even though it cannot physically serve the shipper's facility, to compete with the incumbent's single-line rate. The agency has in the past held that reciprocal switching should not be ordered absent a showing of competitive abuse. More specifically, the complaining party must show that the incumbent railroad has used its market power to extract unreasonable terms or, because of its monopoly position, has disregarded the shipper's needs by rendering inadequate service. Midtec, 3 I.C.C. 2d at 181.

Unlike reciprocal switching, forced terminal arrangements (including some forms of trackage rights) involve the physical presence of a competing carrier on a host carrier's facilities owned by the incumbent railroad. Under terminal agreements, an incumbent railroad grants access to its terminal facilities or tracks to another carrier's trains for a fee so that the non-incumbent can serve traffic it would otherwise be unable to access.

The Board also indicated that it would "not focus on interchange commitments [i.e., "paper barriers"] or the approach adopted in Ex Parte No. 575, Review of Rail Access and Competition Issues–Renewed Petition of the Western Coal Traffic League (served Oct. 30, 2007), and Ex Parte No. 575 (Sub-No. 1), Disclosure of Rail Interchange Agreements (STB served May 29, 2008), because "[t]here are also several pending cases before the Board that will continue to develop, on a case-by-case basis, the Board's policies" and "[b]ecause we will continue to consider these issues and look to improve the processes associated with transactions involving interchange commitments," this proceeding will "not focus on interchange commitments or the approach adopted in" Ex Parte No. 575.

The Issues:

The Board then set forth specifically the issues as to which it is seeking comments, as follows:

1. **The Financial State of the Railroad Industry**. Parties are invited to comment on the evolving economic state of the railroad industry. The industry has changed significantly since 1980, when Congress passed the Staggers Act of 1980, Pub. L. 96-448, 94 Stat. 1895 (1980) (Staggers) and the ICC began the process of devising the current competitive access rules and policies. Today, the industry is in substantially stronger condition financially. In this regard, parties should address both the findings and conclusions of recent studies of the railroad industry, including (but not limited to) the Christensen Study and the joint study of United States Departments of Agriculture and Transportation.

2. **49 U.S.C. § 10705** (alternative through routes). Parties are invited to discuss how to construe this provision in light of current transportation market conditions. In this regard, parties may address pre-Staggers practice, Staggers' effect on this issue, and whether there are statutory constraints on the Board's ability to change policy at this time. Parties are

specifically invited to comment on the differences between §§ 10705(a)(1) and 10705(a)(2), the circumstances under which carriers may seek to protect their long hauls under § 10705(a)(2), and whether § 10705(a)(2) should apply where multiple carriers can originate the traffic, but only a single carrier can deliver the traffic to its destination.

3. **49 U.S.C. § 11102(a)** (terminal facilities access). Parties are invited to discuss how to construe the terminal access provision in light of current transportation market conditions. Again, parties may address pre-Staggers practice, Staggers' effect on this issue, and whether there are statutory constraints on the Board's ability to change policy at this time. The Board is also interested in how the definition of "terminal facility" evolved over time.

4. **49 U.S.C. § 11102(c)** (reciprocal switching agreements). Parties are invited to discuss, separately from the terminal facilities access provision, how to construe this provision in light of current transportation market conditions. Again, parties may address pre-Staggers practice, Staggers' effect on this issue, and whether there are statutory constraints on the Board's ability to change policy at this time. In particular, parties should address whether the broad "practicable and in the public interest" standard in the statute should be constrained by the provision permitting relief "where . . . necessary to provide competitive rail service." Finally, parties may discuss the distance limitations, if any, associated with this provision.

5. **Bottleneck Rates**. Parties are invited to discuss whether the Board could and should change its precedent finding only narrow authority to compel a railroad to quote a separately challengeable rate for a portion of a movement. Parties are also asked to comment on how the Great Northern Railway decision—holding that the reasonableness of a through rate established by carriers is only relevant to the shipper as to the total rate charged, and thus should be evaluated from origin to destination rather than on a segment-by-segment basis—can reasonably be applied in today's transportation world. In particular, we want to explore how the agency would evaluate the reasonableness of the more elaborate through rates used in today's global transportation industry including, for example, a local truck movement at origin, a transload to rail for shipment to a port, an international water movement, and finally a foreign rail or truck movement to destination. In such an example, do Great Northern Railway and other precedent require the agency to evaluate the reasonableness of the rates exclusively from origin to destination? If so, how could the agency evaluate the entire through rate when a portion of that rate includes transportation outside the Board's jurisdiction? Or does the agency have the discretion to permit the shipper to challenge just the rail carrier's division of the international through rate? Does the agency have discretion in other purely domestic settings? Participants may also

address the role that short lines play in through rates, and whether the reasoning in Great Northern Railway encompasses "bottleneck" situations and a more highly concentrated rail industry. Should freight rail customers be allowed to determine intermediate origin and destination points that would enable a competing carrier or mode to serve the shipper's final destination?

6. **Access Pricing**. If the Board were to modify its competitive access rules, it would also need to address the access price. The Board seeks comments on what tools it can and should consider using (within statutory and constitutional limits) in evaluating how the carriers can assess terminal access prices, reciprocal switch fees, or segment rates, such as Constrained Market Pricing principles, or an alternative set of principles, such as cost-based pricing principles or Efficient Component Pricing. What role, if any, should a carrier's current financial standing and future prospects bear in this determination?

7. **Impact**. Finally, we invite comments from all interested parties on the positive and negative impact any proposed change would have on the railroad industry, the shipper community, and the economy as a whole. The introduction of greater rail-to-rail competition could improve service and lower rates for captive shippers. But a loss of revenue could lead to less capital investment, constraining capacity and deteriorating service for future traffic. Any party advocating a change should address these impacts.

The Board also stated that "parties are welcome to offer their comments on any other aspect of our competitive access rules. Parties are also invited to comment on the specific questions in our prior order on this similar subject. Policy Alts. to Increase Competition in the R.R. Indus., EP 688 (STB served Apr. 14, 2009)."

Westlake welcomes the opportunity to provide the following Comments in support of changes in the Board's policies that are addressed in the above-listed issues.[7] After Westlake addresses the issues the Board raised, it is providing an

[7] Of course, despite railroad arguments to the contrary, the Board is free to revise its rules and policies. *Chevron U.S.A. Inc. v. Natural Resources Def. Council, Inc.,* 467 U.S. 837, 863 (1984)("An initial agency interpretation is not instantly carved in stone."). The Board may change its policies, to the extent that the Interstate Commerce Act permits, so long as it acknowledges its prior policy and

overview of the history of the Federal Energy Regulatory Commission's successful introduction of competition into the previously uncompetitive natural gas pipeline industry and the wholesale electricity industry, to demonstrate that the introduction of competition into a previously uncompetitive industry does not prevent that industry from remaining financially healthy.

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provides a reasoned basis for the changed policy. *E.g., Greater Boston Television Corp. v. FCC,* 444 F.2d 841, 852 (D.C. Cir. 1971), *cert. denied,* 403 U.S. 923 (1971) ("[a]n agency changing its course must supply a reasoned analysis indicating that prior policies and standards are being deliberately changed, not casually ignored..."). In Norfolk Southern's ("NS") Comments filed January 31, 2011 in Ex Parte No. 704 concerning exemptions, arguing the issue of the Board's authority to revise its policies, NS cited (at 15 n.23) *Bob Jones University v. United States,* 461 U.S. 574 (1983), for the supposed proposition that "Congress endorses regulatory policy when it knows of statutory interpretation and declines to change the statute." NS did not cite a specific page in the *Bob Jones* opinion for that proposition, and there is a good reason why – the case does not stand for that proposition. On the contrary, the Supreme Court said (*id.* at 600), "Ordinarily, and quite appropriately, courts are slow to attribute significance to the failure of Congress to act on particular legislation," *citing, e.g., Aaron v. SEC,* 446 U.S. 80, 694 n.11 (1980). The Court added that "We have observed that 'unsuccessful attempts at legislation are not the best of guides to legislative intent,'" *citing Red Lion Broadcasting Co. v. FCC,* 395 U.S. 367, 382 n. 11 (1969). The Court went on to explain that it drew an inference about Congressional inaction in the *Bob Jones* case because Congress had, in fact, enacted legislation, including the specific section in question, without addressing the administrative interpretation at issue there. Since the Staggers Rail Act of 1980 was enacted, the only significant legislation amending the Interstate Commerce Act was the Interstate Commerce Commission Termination Act of 1995, which was intended *not* to make substantive changes to the Interstate Commerce Act (with a very few targeted exceptions). So, NS's reliance on *Bob Jones* is way off the mark and inappropriate. The Board should not be dissuaded by such an erroneous argument from amending its policies because of changed circumstances or its different views of policy matters. Indeed, to take just one example, when the Board concluded that it should alter its "market dominance" rules to exclude "product and geographic competition" in most circumstances, it did so despite the fact that there was no change in the governing statute. *Association of American Railroads v. STB,* 306 F.3d 1108 (D.C. Cir. 2002).

Argument

I.

THE RAILROAD INDUSTRY IS FINANCIALLY STRONG; THE CLASS I RAILROADS ARE EARNING MORE THAN ADEQUATE REVENUES.

A. Background. This matter is, or at least ought to be, straight-forward. There is no question that the Class I railroad industry[8] as a whole is quite healthy, and has been "revenue-adequate" for some time, as we show *infra*.

To begin with, the Senate Commerce Committee issued a Report on September 15, 2010 (copy available at www.senate.gov), which demonstrates the industry's financial health beyond a shadow of a doubt. In short, the Staggers Act has succeeded beyond its expectations in achieving that outcome.

The STB's standards themselves show that the railroad industry has become much more profitable, and that one railroad – Norfolk Southern – has been "revenue-adequate" under the STB's standards for most of the last several years. But the STB's standards generally purport to show that the railroads are not as profitable as other, generally prevailing standards, show, as the Senate Commerce Committee Report documents at length. Why is that?

To answer that, the shipping community requested (in 1997) that the late, esteemed Professor Alfred E. Kahn, and his colleague, Professor Jerome Hass,

[8] We do not address Class II and Class III railroads in this section of the Argument, because the Board does not determine the revenue adequacy of Class II and III railroads in its annual revenue-adequacy determinations, other than to observe that Westlake provides substantial business to the Paducah & Louisville Railroad and the Wisconsin & Southern Railroad, and believes both of them to be financially healthy.

investigate why the STB's standards do not produce results that comport with what others were saying about the railroads' financial health. Professor Kahn's Statement, together with Professor Hass's Report, is attached. That Statement and Report demonstrate that the STB's standards are hopelessly compromised by the adjustments, mostly upward, to railroad property values – the "investment" base in the STB's "revenue adequacy" determinations. Those upward adjustments have occurred because of the inclusion of merger and acquisition premiums, which have been in the billions of dollars. Also, the "Return" numerator includes "special charges," which is clearly improper. Finally, there are other adjustments, of a more technical nature, that also affect those values, which Professor Hass documents. Professor Hass, seconded by Professor Kahn, pointed out that the railroads clearly had no difficulty raising capital, which is the statutory definition of "revenue adequacy" in the Interstate Commerce Act, 49 U.S.C. § 10704(a)(2), and they were reinvesting in themselves, indicating that they believed that they would continue to be revenue-adequate.

The irony is that no one, except the Board in its own regulatory proceedings, relies on the Board's "revenue adequacy" findings. This is in part true because the Board's findings are necessarily retrospective. Wall Street needs a current sense of the financial health of a company, so it relies on ROE (return on equity) and average earnings growth. ROE depends on the "Equity" value of the railroad stocks, a known and reliable quantity, rather than the fictitious "Investment" values the Board's standard includes. Professor Kahn proposed the use of market-to-book ratios.

Professor Kahn showed, irrefutably, if the market-to-book ratio of a stock is greater than 1.00, the stock market values a stock at more than its book value. That was the situation with the railroads in 1997, when Professor Kahn wrote his Statement, and it is even more true today. Professor Kahn also noted that, so long as railroads continue to re-invest in themselves, their managements clearly believe they will continue to be revenue-adequate. Under such circumstances, a company is, by definition, able to raise capital, the statutory test.

B. The Kahn-Hass Analysis. Professor Hass explained that the

> The STB's measure of the rate of return on invested capital is the ratio of after-tax income from railroad operations to capital invested in the railroad assets (the average of railroad assets, including working capital, less accumulated deferred income taxes). The STB's measure of rate of return on invested capital, which it calls "Return on Investment" or "ROI," is seriously flawed for a number of reasons.

So, the STB's standard is a ratio, the numerator of which is "after-tax income from railroad operations," and the denominator supposedly is "capital invested in the railroad assets.

Professor Hass then set out the myriad reasons that the STB's "revenue-adequacy" standards were flawed. It is important to understand those reasons, because they not only demonstrate that the STB's findings are not reliable, but also that they STB's approach is fundamentally mistaken and cannot be repaired – it must be replaced by forward-looking standards.

First, the numerator includes one-time "special charges that can material alter the reported ROI. Professor Hass showed (Report at 2) that, in 1995, the exclusion of "special charges" alone would have resulted in "revenue adequacy" for the railroad industry (if the cost of capital were also properly calculated).

<u>Second</u>, the denominator includes merger and acquisition premiums, which is improper. Professor Kahn aptly explained (Statement at 3) why:

> The force of this evidence is magnified by the consideration, also adduced by Professor Hass, that the net book value of the assets of the companies has been inflated as a result of acquisitions and/or mergers. Whenever and wherever the net book value of a company's stock or assets has served as the basis for determining the permissible return for regulatory purposes -- as it is in the STB's revenue adequacy calculations – it[] is axiomatic that those book values must be based on the original cost of the assets. As the U.S. Supreme Court has recognized, to incorporate market-to-book based write-ups in the rate base to which the allowable rate of return is applied in determining a regulated company's revenue requirement or entitlements – which in turn determine its allowable prices – is to introduce a fatal circularity into the process: allowable prices are set on the basis of the market value of assets which must be based in turn on the expected prices.[9]

[9] See Professor Kahn's highly regarded treatise, "The Economics of Regulation" (MIT Press, 1988), at 38-40 (discussing *FPC v. Hope Natural Gas Co.,* 320 U.S. 591, 602 (1944)(rejecting "fair value" test for valuation of regulated assets on grounds of circularity)); *see especially* Kahn at 39 n.41 (according Justice Brandeis a "place of high honor," because he "made many of these same observations" in "his famous dissenting opinion in the *Southwestern Bell Telephone* case, 262 U.S. 276, 289-313 (1923)." In *Hope,* the Supreme Court cited Justice Brandeis's opinion with approval (320 U.S. at 603). *See also Missouri Pub. Serv. Comm'n v. FERC,* 601 F.3d 581, 582 (D.C. Cir. 2010)(discussing FERC's policy of disallowance of acquisition premium pass-through unless the customers realize actual net benefits from the transaction). FERC's policy differs from that of the STB's in that the STB accepted railroad <u>representations</u> that there would be shipper benefits, whereas FERC <u>requires</u> them. *E.g., Kansas Pipeline Co.,* 81 F.E.RC. ¶ 61,005 at p. 61,018 (1997), *cited in Missouri Pub. Serv. Comm'n v. FERC, supra,* at 582, 584.

Professor Kahn then went (*id.*) to explain that the impact of the inclusion of merger or acquisition premiums would also have the pernicious effect of altering the Board's rate prescriptions and revenue adequacy calculations[10]:

> It would similarly eviscerate the regulatory process if the net book value that serves as the investment base in these revenue adequacy calculations were not the original cost of the assets when they were first constructed or acquired but the prices <u>at which they were subsequently valued</u> in or as a result of asset transfers, mergers, or acquisitions. To permit rates (or calculations of revenue adequacy) to be based on the prices of those subsequent transfers would be to permit easy evasion of regulation: the assets could be transferred at prices inflated above net original cost and those inflated valuations would then automatically be translated into correspondingly inflated revenue or return targets for subsequent revenue adequacy calculations.

<u>Third</u>, Professor Hass explained that ROI, "like many short-term measures, also suffers from extreme swings as railroad operating margins change over time." Professor Hass (*id.* at 4 n.6) used the example of Southern Pacific's Net Revenues from Operations, which fell from $225 million to a negative $21 million from 1994 to 1995.[11]

Professor Hass then concluded (*id.* at 6) that "There is no meaningful relationship between the STB's measure of revenue adequacy and the financial well-being of the Class I railroads." He explained why:

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[10] There is a similarly pernicious effect on the jurisdictional threshold of 180% of variable costs for STB rate regulation in 49 U.S.C. § 10707(d)(1)(A); the acquisition premium increases the variable costs of a railroad, thereby raising the threshold and insulating more rail rates from the Board's jurisdiction.

[11] Professor Hass also explained that there were serious problems with the STB's calculation of the cost of capital. The Board has addressed those matters in a subsequent rulemaking proceeding. Accordingly, we do not believe it would constructive to re-plow that ground here.

First, investors expect that the prices of the regulated entity are or will be set so that the entity will not have the fair opportunity to earn its cost of capital, then the book value of its equity (as the residual capital suppliers) will exceed its market value. Professor Hass went on to show that the 1995 market-to-book ratios for the 8 publicly traded railroads ranged from 2.13 to 2.53 times and average 2.53 times. He concluded that "This strongly suggest that investors expect the railroads to earn more than the cost of capital in the future."

Second, there is objective evidence from the railroad companies themselves. If investments in railroad activities are not expected to earn at least the cost of capital, then these firms should not be retaining the earnings they generate for their shareholders but rather pay those earnings out as dividends so that shareholder can reinvest them elsewhere to make an adequate return. He pointed out (*id.* at 7) that the "evidence supports the contention that the managements and boards of directors of these companies believed that the investment opportunities within the industry were financially attractive." Of course, that is all the more true since 1997.

Third, the very title of the measure – "revenue adequacy" – suggests that, if an inadequacy is found, it is associated with revenues. Professor Hass explained (*id.*) that "[t]his may not be the case." He explained (*id.* at 8) that reductions in the "Operating Ratios" of the railroads by cost –cutting, which has clearly occurred, can produce revenue adequacy "without any increases in prices," pointing out that the railroads themselves were claiming substantial "synergies" in the then-recent mergers and acquisitions (such as the UP-SP merger).

Fourth, Professor Hass showed that there was a "clear divergence between the notion that eight of the eleven Class I railroads were revenue adequate in 1995 and the ability of these firms to raise cash and the willingness of others to pay substantially more than book value for acquisitions. It is generally believed that if the regulated entity does not have a fair opportunity to earn its cost of capital, then it will not be able to attract capital or will be able to do so only at the expense of existing capital suppliers." Professor Hass (at 9) pointed to the following acquisition premiums paid for various railroads: UP paid $35 per share for CNW, which had a book value the year before the acquisition of $7; BN paid $20 per share for ATSF, which had a book value of $6.67 per share the year before its acquisition; UP paid $25 per share for SP, which had a book value of $6.80 per share the year before its acquisition; and the bidding war for Conrail has pushed its price to $110 per share, while Conrail had a book value of about $32.83 per share at the end of 1995. If Professor Hass were writing today, he would also observe that Berkshire Hathaway's purchase of the remaining shares of BNSF that it did not already own apparently will result, according to BNSF, in an acquisition premium of about $7.3 billion in total over book value.[12]

[12] Regardless of the issues surrounding the acquisition premium generally, Westlake maintains that BNSF did not incur any premium when Berkshire Hathaway acquired it – Berkshire Hathaway did – and therefore the Board should not allow any of Berkshire Hathaway's premium to be considered a cost to

Fifth, Professor Hass stated (*id.*) that, "even if all the defects discussed above were corrected, the method of measuring revenue adequacy chosen by the Board is flawed. That is, the Board's measure could signal inadequacy in a given year while, at the time, the current revenues are entirely adequate in terms of providing a reasonable return on invested capital when judged in the proper context." He explained (*id.* at 10) that the use of a "Depreciated Original Cost" methodology, rather than a "Trended Original Cost" methodology, could result in "false-negative results: railroad revenues appear to be inadequate, but are factually adequate when judged according to the inter-temporal scheme under which they are being played out."

Professor Hass concluded (at 10) that the Board's revenue-adequacy methodology is "fraught with short-comings and severely short-sighted." He went on to recommend that the Board used market-to-book ratios (as did Professor Kahn):

> Simple measures, such as market-to-book ratios, retention rates and debt ratings indicate that the railroads have a high degree of financial integrity and are expected to earn returns on the book value of equity well in excess of their cost of capital. They clearly have no difficulty in raising capital without causing any dilution for existing shareholders. Yet all but three of the [then-] eleven Class I railroads reviewed by the STB indicate revenue inadequacy."

He concluded (*id.*) the STB's methodology is "fatally flawed" and results in "potential misunderstandings that result from its publication." Professor Kahn emphatically endorsed those conclusions, recommending that either the entire

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BNSF. BNSF did not incur one penny of Berkshire Hathaway's acquisition of BNSF, and therefore that acquisition premium should not affect BNSF's costs as determined by the Board, for whatever regulatory purpose.

statutory test be scrapped (which he stated would require legislation) or that market-to-book ratios be used instead.

C. Confirmation from the Former AAR Vice President of Economics.

Emphatic confirmation of the Kahn Statement/Hass Report was provided to the Senate Commerce Committee in the May 9, 2001 Testimony of Dr. Harvey A. Levine (copy attached). Dr. Levine had been, until just four years before that date, the Vice President of the Economics & Finance Department at the Association of American Railroads ("AAR"). Dr. Levine began his Testimony by stating (at 1) that, "No matter what my past professional position, I have always believed that a financially viable, freight-railroad industry is in the public interest. After all, railroads are conduits that serve the function of providing time and place (location) utility to our nation's consumers." But he immediately added (*id.)*, "Adequately staffed and capitalized railroads are needed for such an important role, but at the same time, it is through satisfaction of customer needs that railroads have the opportunity to become financially viable. Thus, the achievement of railroad financial adequacy and the satisfaction of rail customer needs are two sides of the same coin."

Dr. Levine then went on say this (at 1-2):

> Railroads, in their presentations to the ICC, ...STB, and public policy makers, describe themselves as being burdened with "woefully inadequate earnings," even if individual carriers were financially stable, and no matter what the railroads earned. The industry gained support for this view from the ICC beginning in 1978, when the first annual revenue-adequacy determination was made.... During more recent years, the

> railroads' mantra of "woefully inadequate earnings" has been replaced by "revenue inadequacy."

Dr. Levine concluded (at 4) that the state of the railroad industry's financial health was far better than it portrayed to the STB and public policymakers. Dr. Levine's views were provided in 2001; imagine how much better he would say the revenue adequacy of the industry is today, after the great increase in railroad rates, earnings, and stock prices since 2001!

Here is what Dr. Levine recommended (at 4-5):

> My perspective of the state of the freight railroad industry is different from that being portrayed by the industry itself. As a reflection of my views, I present three observations below, including summary statements of support and recommendations, followed by a more detailed discussion leading to each of the three observations.
>
> 1. Railroad data presented in annual reports to shareholders, and supplemental data to the Securities & Exchange Commission (SEC), is often in conflict with industry-wide data distributed to and used by the STB and especially that agency's annual determination of railroad revenue adequacy.
>   - Railroad revenue need is synonymous with capital attractiveness.
>   - Railroads compete for capital in open capital markets against companies who provide annual financial reports to their shareholders and supplemental financial information to the SEC.
>   - Potential investors rely upon financial documents prepared and provided by the owners of businesses in consideration of where and when to invest their funds.
>   - Consequently, when railroad capital attractiveness is at issue, annual reports to shareholders and supplemental data to the SEC should be used as the basis for analysis.
>   - At the same time, the link between the STB's annual determination of railroad revenue adequacy and capital attractiveness is at best elusive and in all probability, non-existent.

- The annual STB revenue-adequacy determination should be terminated and railroad financial data submitted to the Board should be consistent with the information presented to the shareholders and the SEC.
- Finally, railroad revenue need should be thought of in terms of: (1) individual railroads as opposed to industry-wide averages, (2) as a fluid, and thus temporal state of being, and (3) as a prospective concept.

Dr. Levine then went to explain (at 5-6) that the issue is simply whether a railroad has the ability to attract capital (as the statute states):

> Railroads are no different than other for-profit companies in that they must pay their operating expenses, meet their interest obligation on their funded debt, and have the ability to attract needed equity capital if they are to provide adequate service to their customers. By earning any level of net profit, operating expenses and interest charges are paid because such profit is calculated after those payments and income taxes are subtracted from revenue. Thus, stripped of its trappings, the issue in regard to railroad financial viability is that of capital attractiveness to providers of equity. This attractiveness is enhanced by a variety of factors including the most recent returns to the providers of equity capital – measured by the ROE – a strong balance sheet, significant cash flow relative to capital expenditures, and sound management policies and procedures. Many of these considerations are discussed in the railroad's annual reports to their shareholders and other information provided to the SEC. In fact, the "President's Message" sets the tone for the annual report to shareholders. But the overall message, analysis of financial performance, and even thoughts about the future, are not revealed in the annual reports to the STB. They are also not reflected in the STB's annual revenue-adequacy determination. This disparity can lead to contradictory views by the railroad itself, and between the railroad and the STB.

Dr. Levine concluded (at 7) that "In general, the financial health of the individual railroads is far better than that projected by the revenue-adequacy determination." In other words, in all respects, the Senate Commerce Committee's September 15, 2010 Report on the financial health of the railroad industry and Dr. Levine's views are essentially identical. The railroads are simply doing far better, financially, than the STB's annual revenue-adequacy determinations show.[13] Professor Kahn's Statement and Professor Hass's Report explain why.

The most obvious, and most recent, evidence of the railroad industry's financial health is the fact that Berkshire Hathaway paid approximately a $30/share premium over the market price of BNSF Railway stock to acquire all of BNSF. Berkshire Hathaway obviously believes that the railroads are a good bet to provide a more-than-adequate return for many years to come, or it and its Chairman, Warren Buffet, would not have agreed to pay that premium[14] and buy

[13] The railroads' own figures show this strong upward trend. According to the AAR (*see* figures published in "Railroad Facts," published by the Association of American Railroads, in which the AAR has published the history of these figures each year for many years), in 1980, the rate of return on net investment of the railroad industry was 4.22%, compared to a regulatory cost of capital of 12.1%. So, using that methodology, the rate of return of the industry was only about one-third of the level of the regulatory cost of capital determination. By 1995, the industry's rate of return equaled 7.04 percent, compared to a regulatory cost of capital of 11.7%. Thus, the industry's ROI was at that point 60% of the cost of capital determined by the agency. By 2006, however, the industry's rate of return according to the AAR was 10.17 percent, or above the cost of capital determination by the STB for that year of 9.94%. By 2008, after the start of the recession, the AAR calculated the railroad industry's return on investment at 10.7%, again very close to the Board's calculation of the industry's cost of capital for that year (11.75%).

[14] Of course, because Berkshire Hathaway is not a railroad, it did not have to obtain the STB's approval to acquire BNSF. That also demonstrates why the acquisition premium should not be reflected in BNSF's rates, at least to those shippers within the Board's jurisdiction to determine reasonable rates. In the past, the STB has allowed such premiums to be reflected in the railroads' costs for regulatory purposes, on the theory that the transactions involved (*e.g.,* Union Pacific-Southern Pacific merger, and the Conrail acquisition by CSX and Norfolk Southern) would produce benefits greater than the amounts of the premiums paid in those transactions. While shippers argued that the benefits could not be assumed (and those transactions produced great harm to shippers and the U.S. economy), at least the Board had a theory for allowing the pass-through of the premiums to shippers. Here, there is no rationale by which shippers – who by definition had nothing to say about whether Berkshire Hathaway would buy

all of BNSF. This was confirmed by the most recent data. See January 28, 2011 article (available at (http://www.utu.org/worksite/detail_news.cfm?ArticleID=53856) entitled "Railroads 2010: how sweet it was." Indeed, Mr. Buffett's annual letter to shareholders, dated February 26, 2011, stated (at 3) that 2010 was a great year for Berkshire Hathaway in part because of its acquisition of BNSF:

> The highlight of 2010 was our acquisition of Burlington Northern Santa Fe, a purchase that's working out even better than I expected. It now appears that owning this railroad will increase Berkshire's "normal" earning power by nearly 40% pre-tax and by well over 30% after-tax. Making this purchase increased our share count by 6% and used $22 billion of cash. Since we've quickly replenished the cash, the economics of this transaction have turned out very well.

The letter went on to say (at 14), about BNSF and one of its affiliates (a regulated utility):

> A key characteristic of both companies is the huge investment they have in very long-lived, regulated assets, with these funded by large amounts of long-term debt that is *not* guaranteed by Berkshire. Our credit is not needed: Both businesses have earning power that, even under very adverse business conditions, amply covers their interest requirements. For example, in recessionary 2010 with BNSF's car loadings far off peak levels, the company's interest coverage was 6:1. Both companies are heavily regulated, and both will have a never-ending need to make major investments in plant and equipment. Both also need to provide efficient, customer-satisfying service to earn the respect of their communities and regulators. In return, both need to be assured that they will be allowed to earn reasonable earnings on future capital investments.

Accordingly, it is clear that the Class I railroad industry is financially healthy, whatever the STB's annual revenue-adequacy findings may show. It is

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BNSF, or the amount of the premium it would pay – should have to pay higher rates due to a premium the STB did not approve. Any such premium should be the responsibility of shareholders, as it is for other regulated industries, because the STB does not provide the customers any assurance that they will in fact be better off as a result of paying a premium, and in fact the customers have been made worse off as a result of prior mergers and acquisitions.

also clear that the STB should abandon its backward-looking ROI standard for revenue adequacy in favor of (so long as the STB is required to determine railroad revenue adequacy) a, simple, forward-looking, measure such as market-to-book ratios, as Professors Kahn and Hass recommended.

II.

SHIPPERS SHOULD HAVE THE RIGHT TO CHOOSE ALTERNATIVE THROUGH ROUTES.

Historically, shippers had the right to choose the route over which their goods would be shipped, assuming the route was available and practical.[15] They should still be allowed to do so.

After enactment of the Staggers Act, the railroads began to assert the "right" to determine the "most efficient" routing, and the ICC/STB did not take issue with them. Of course, what the railroads typically meant by "most efficient" was what generated the most revenue for them. But that is not what the Board should determine the applicable standard to be. Rather, the shipper should be allowed to choose any route that is part of one or more railroads' route map, as currently on file with the STB. The presumption should exist that any such

[15] *See Routing Restrictions,* 296 I.C.C. at 774-75 ("If a carrier denied holding out such service for a give rail segment, however, a shipper could show that the carrier implicitly held out service. Shippers did this by showing either that the carrier was required to provide such service under its common carrier obligations, or by demonstrating an 'established interchange' for such service with another carrier. *See id.* sat 774."), *cited with approval in MidAmerican Energy Co. v. STB,* 169 F.3d 1099, 1107 n.11(8th Cir. 1999).

routing is "reasonable" or "practical." The burden should be on the railroad to show that the alternative routing is not reasonable or practical.[16]

A railroad may be able to show that an alternative routing is not available because, for example, the alternative routing would be over tracks that are not capable of handling the weight of the shipper's loaded rail cars (*e.g.,* loaded coal cars that may weigh close to the legal weight limit). If a railroad cannot show that the shipper's chosen alternative routing is not reasonably available, the shipper should be entitled to require that his shipment be routed as the shipper directs at competitive rates.

Allowing a shipper to choose an alternative routing can be an efficient way of resolving rate or other disputes between a shipper and a railroad. For example, the undersigned counsel had the experience that, in a so-called "Section 229" complaint proceeding in the early 1980s following enactment of the Staggers Act, the Complainant's initial showing of "market dominance" was countered by Conrail's filing, showing that there was an alternative routing available for all but about 18 miles of the route from origin to destination that, if

[16] This is consistent with 49 U.S.C. § 10705(a)(2), the "long –haul, short-haul" provision, which permits the Board to order a railroad to provide a "bottleneck rate" (*i.e.,* "The Board may require a rail carrier to include in a through route substantially less than the entire length of its railroad ...only when (B) inclusion of those lines would make the through route unreasonably long when compared with a practicable alternative through route that could be established; or (C) the Board decides that the proposed through route is needed to provide adequate, and more efficient or economic, transportation."). In other words, there is no prohibition on requiring railroads to "short-haul" themselves, if, in the judgment of the Board, doing so would promote "adequate, and more efficient or economic, transportation," or if the failure to do so "would make the through route unreasonably long when compared with a practicable alternative through route that could be established."

used, would have meant that about 90 percent of the total distance would have been over CSX, rather than Conrail. Inquiry was promptly made of the Complainant which thought, when it presented its "market dominance" evidence, that the alternative routing was not available. The shipper said that its initial presentation was based on a representation by Conrail, which had said the alternative routing could not be used because a bridge was out. The decision was made to direct Conrail to route over that alternative route, to see if in fact it was available, notwithstanding Conrail's prior representation. The alternative routing was available, and was used for the next shipment, meaning that Conrail lost most of the revenue associated with the shipment. The "Section 229" Complaint was settled the next day, because Conrail did not want to continue to lose the revenue due to the alternative routing.

The point is that, by allowing shippers to choose reasonable alternative routes, disputes between shippers and railroads may often be resolved, because of the pro-competitive implications of the shipper's choice. Given the pro-competitive policies of the Staggers Act, the Board should declare that shippers continue to have the right to choose alternative routings, assuming that the alternative routing is available and may safely handle the shipment.

III.

THE BOARD SHOULD CHANGE ITS TERMINAL-ACCESS RULES SO AS TO PROVIDE RELIEF WITHOUT REQUIRING PROOF OF "COMPETITIVE ABUSE."

Westlake submits that there is no basis in the statute for the Board's MidTec decision, which engrafted the "anticompetitive conduct" test onto the statute. MidTec is contrary to the pro-competitive policies of the Staggers Act. Accordingly, the Board should overturn MidTec.

Originally, the purpose of the terminal trackage rights provisions of the statute was to promote efficient interchanges. The ICC (later the STB) was permitted to provide terminal trackage rights without any showing of competitive abuse, merely as an aid to efficient transportation.

In enacting Staggers, however, Congress was mindful, however, that the free market would protect consumers only if there was "effective" competition. Therefore, the 4R Act and the Staggers Act "included provisions allowing regulatory intervention where competition would not control prices."[17] Indeed, in "bottleneck" situations the Staggers Act actually "*increased* the ICC's regulatory power – by authorizing the agency to require railroads to enter into agreements

[17] *MidAmerican Energy Co. v. STB,* 169 F.3d at 1105 (*citing* 4R Act, Section 101(b), 90 Stat. 31, 33; Staggers Act, Section 101(a), 49 U.S.C. § 10101(a)(6) (now 10101(6)); *Coal Exporters Association of United States v. United States,* 745 F.2d 76, 81 n.6 (D.C. Cir. 1984)).

to 'switch other railroads' cars to and from shippers located along each others' lines."[18]

Indeed, when the Board mandates terminal trackage rights in merger and acquisition proceedings, it does without requiring the railroad obtaining the trackage rights to demonstrate "competitive abuse" by another railroad before it may obtain trackage rights to serve shippers. Westlake submits that there is no reason to impose the "competitive abuse" test of MidTec[19] when a shipper, rather than a railroad, is seeking terminal trackage rights so that a railroad that does not serve the shipper may do so, as the decisions of the Eighth Circuit, the D.C. Circuit, and the STB's own rationale in the "bottleneck rate" decisions all seem to support.[20]

Finally, Westlake notes the important statement made by the United States District Court for the Western District of Wisconsin, just last year, in litigation brought by Dakota, Minnesota & Eastern Railroad over whether Wisconsin & Southern Railroad has the right to access NAPCO's facility in Janesville, WI:

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[18] *Baltimore Gas & Elec. Co. v. United States,* 817 F.2sd 108, 113 (D.C. Cir. 1987); *see* 49 U.S.C. § 11103 (now 11102), *cited with approval in MidAmerican Energy Co. v. STB,* 169 F.3d at 1105.

[19] *MidTec Paper Corp. v. United States,* 857 F.2d 1487, 1506 (D.C. Cir. 1988).

[20] The Eighth Circuit's decision in *MidAmerican Energy Co. v. STB* restating the Board's rationale for its "bottleneck rate" rulings, said "Potential relief under the competition rules would include ordering the bottleneck carrier to enter into a switching arrangement with another carrier or prescribing a new through route over the bottleneck." 169 F.3d at 1108, *citing* 49 C.F.R. § 1144.5(a). The Eighth Circuit went on to cite the Board for the proposition that "Admittedly, invoking these rules has proved difficult for shippers, but the Board has indicated an intent to enforce the rules to their fullest extent in the future. *See Bottleneck I,* at *22, *26." *Id.*

> While the discussion above is more than sufficient to explain the basis for dismissing DM&E's breach of contract claims, the court would be remiss not to note that an interpretation of the contract restraining all competition for rail services at a facility or location in perpetuity would also be problematic because it places unreasonable restrictions on trade. *See generally* Interstate Commerce Act, 49 U.S.C. § 10101 ("In regulating the railroad industry, it is the policy of the United States Government (1) to allow, to the maximum extent possible, competition and the demand for services to establish reasonable rates for transportation by rail; . . . [and] (5) to foster sound economic conditions in transportation and to ensure effective competition and coordination between rail carriers and other modes[.]").[21]

Westlake believes that the District Court was correct, that the policy of the United States is, and the Board should affirmatively implement this policy, "to allow, to the maximum extent possible, competition and the demand for services to establish reasonable rates for transportation by rail" so as "to foster sound economic conditions in transportation and to ensure effective competition and coordination between rail carriers and other modes." The Board's Notice in this proceeding, and its consideration of whether changes in its competition-related policies are in order, are welcome, especially in light of the ever-improving fortunes of the railroad industry and the simultaneous difficulties being encountered by American manufacturers, such as Westlake. Where railroad practices are not pro-competitive, we submit that the Board should do everything it can to make them so.

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[21] *Dakota, Minnesota & Eastern Railroad Co. v. Wisconsin & Southern Railroad Co.,* No. 09-cv-00516–wmc, 2010 U.S. Dist. LEXIS 85695 (W.D. Wisc., Aug. 19, 2010), slip op. at 19 n.12 (emphasis added), *appeal pending,* No. 10-3177 (7th Cir.).

IV.

THE BOARD SHOULD AFFIRMATIVELY PROMOTE RECIPROCAL SWITCHING.

Reciprocal switching is the "other side of the coin" from terminal trackage rights. Under reciprocal switching, a serving railroad charges a fee to perform reciprocal switching for a line-haul carrier, rather than provide trackage rights to the other carrier. Conceptually, the charge for reciprocal switching should be set on the same basis as an "access charge" or terminal trackage rights. We address the way in which such an access charge should be set in Section VI, *infra.*

V.

THE BOARD SHOULD OVERTURN ITS "BOTTLENECK RATE" RULE.

S. 2889 (in the 111th Congress) would have overturned the Board's "bottleneck rate" rule, as would S. 158 in the 112th Congress. The Report accompanying S. 2889 stated (at 27): "[Section 302] would require a Class I rail carrier or other rail carrier, as deemed appropriate by the Board, to quote a bottleneck rate to a rail customer over which it has market dominance, including in a terminal area, provided such request is reasonable. It would permit a rail customer to challenge the reasonableness of that rate at the STB."

This issue is also simple, or at least, ought to be. The existing statute entitles a shipper to quotation of a common carrier rate upon reasonable request, and without a prior showing of market dominance.[22] It is clearly reasonable, in general, for a shipper to request a common carrier rate to a point of interchange, so as to facilitate a connection to another common carrier.[23] Indeed, if a shipper does so, and the connecting carrier quotes a rate that leads to a commercial contract, the shipper is now entitled to a "bottleneck" rate under the Board's existing policy. It defies common sense, and the pro-competitive purposes of the Staggers Act, to say that a shipper is not entitled to a "bottleneck" rate otherwise.[24]

Indeed, when the Eighth Circuit affirmed the STB's "bottleneck" decision, it did so on grounds of deference, and implied that it would have affirmed the opposite ruling – i.e., that a shipper is entitled to a "bottleneck" rate. *MidAmerican Energy Co. v. STB,* 169 F.3d 1099, 1107 (8th Cir.) ("Regardless of how we would resolve the tension in the Act if we were to independently rule on

[22] S. 2889 would have created an expedited process for determining whether a railroad possesses "market dominance" before requiring the railroad to quote a "bottleneck rate." The limitation of the "bottleneck rate" requirement to "market dominant" railroads apparently was an effort at accommodating the railroads on this issue, but as Chairman Rockefeller stated on September 15, 2010, the railroads did not ultimately fully cooperate with the Committee in arriving at a consensus bill. In any event, the current statute requires all railroads to quote a rate upon reasonable request, not just "market dominant" railroads.

[23] Exceptional situations, in which there is a dispute whether the shipper's chosen point of interchange is feasible or otherwise reasonable, can be dealt with on a case-by-case basis.

[24] 49 U.S.C. § 10705(a)(2), the "long-haul, short-haul" provision, which the Board cited in its "bottleneck rate" decision, is not to the contrary. It clearly provides the Board with discretion to require railroads to participate in through rates (or, as the railroads are fond of putting, to "short-haul themselves."). See footnote 16 *supra.*

the utilities' claims, we cannot say that the Board's interpretation was incorrect."), *cert. denied,* 528 U.S. 950 (1999).[25]

The lack of a "bottleneck" rate deprives shippers of the ability to create or promote competition, and it also deprives them in many cases of the most efficient routes. Shippers should be entitled to competition, because that was the promise of the Staggers Act. And shippers should certainly be entitled to efficient transportation; that has been the law since 1887.[26]

It follows that the Board should overturn its "bottleneck" rate rule, and may do so as a reasonable interpretation of the existing statute, based on the Eighth Circuit's determination that the statute is ambiguous, and given that the Board is

[25] The Board also stated in its Notice that "Parties are also asked to comment on how the Great Northern Railway decision—holding that the reasonableness of a through rate established by carriers is only relevant to the shipper as to the total rate charged, and thus should be evaluated from origin to destination rather than on a segment-by-segment basis—can reasonably be applied in today's transportation world." The Supreme Court's decision in Great Northern Railway v. Sullivan, 294 U.S. 458, 463 (1935), is not an obstacle to overturning the Board's "bottleneck rate" rule, for three reasons. First, Great Northern did not involve a request for a "bottleneck rate," but rather an effort at challenging the "divisions" between two railroads participating in the same joint rate. Second, the Staggers Act was enacted long after Great Northern was decided, and adopted a "pro-competitive" rail transportation policy. The "bottleneck rate" rule prevents, rather than promotes, rail-to-rail competition, and so is inconsistent with the Staggers Act. Third, as noted above, the Eighth Circuit's decision affirming the Board's "bottleneck rate" rule held that the existing statute was ambiguous, and deferred to the STB's interpretation of the statute as reasonable. The Court's language implied that it would have affirmed a contrary reading, *i.e.,* that the existing statute requires railroads to quote "bottleneck rates."

[26] *E.g., Consolidated Rail Corp. v. United States,* 646 F.2d 642 (D.C. Cir.), *cert. denied,* 454 U.S. 1047 (1981); *Akron, Canton & Youngstown R.R. v. ICC,* 611 F.2d 1162 (6th Cir. 1979), *cert. denied,* 449 U.S. 830 (1980).

entitled to deference in construing such provisions. *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842-43 (1984).

VI.

ACCESS PRICING SHOULD BE PRO-COMPETITIVE.

The Board's statement of the "Access Pricing" issue is as follows:

> **Access Pricing**. If the Board were to modify its competitive access rules, it would also need to address the access price. The Board seeks comments on what tools it can and should consider using (within statutory and constitutional limits) in evaluating how the carriers can assess terminal access prices, reciprocal switch fees, or segment rates, such as Constrained Market Pricing principles, or an alternative set of principles, such as cost-based pricing principles or Efficient Component Pricing. What role, if any, should a carrier's current financial standing and future prospects bear in this determination?

The Board's statement of the issue is, therefore, best discussed by breaking this subject down into two concepts – terminal trackage rights/reciprocal switching fees, and "segment rates, such as Constrained Market Pricing principles, or an alternative set of principles, such as cost-based pricing principles or Efficient Component Pricing, or an alternative set of principles, such as cost-based principles or Efficient Component Pricing."

A. "Access Pricing" Where "Carriers Can Assess Terminal Access Prices [and] Reciprocal Switch Fees."

The issue of access pricing where carriers assess terminal access prices and reciprocal switch fees is straight-forward. In merger and acquisition proceedings, in order to preserve competition that would otherwise be lost, the Board has set the fee for access by a tenant competitor at the lowest level of the involved railroads' total costs.[27] It is our understanding that the costs in question were the fully allocated costs of the landlord railroad.[28]

Ironically, shippers have argued that the tenant railroad would be at a disadvantage from a competitiveness standpoint if the trackage rights fee was set at the level of fully allocated costs, because the landlord railroad could charge less than fully allocated costs, but more than variable costs, and keep the business. The merging railroads have disputed the shippers' position, and the Board has sided with the merging railroads, setting the trackage rights fee at a level of costs that included not only variable, but also fixed, costs.[29] So, the Class I railroads should be estopped from challenging that approach to access

[27] In the Conrail acquisition proceeding, for example, the trackage rights fee was set at 29 cents/car-mile, which was equal to CSX's total costs. *CSX Transportation, Inc. and Norfolk Southern Railway Co. – Control – Consolidated Rail Corporation*, 3 S.T.B. 196, 343-45 & n.215 (1998) (comparing the trackage rights fee to the fully allocated costs of the involved railroads (CSX, Conrail and NS)), review denied sub nom. *Erie-Niagara Rail Steering Committee v. STB*, 247 F.3d 437 (2d Cir. 2001).

[28] At the time of Staggers, the fully allocated cost-level of the Class I railroads was approximately 140-60% of variable costs, depending on the railroad. Today, estimates are that the level of fully allocated cost is 130-45% of variable costs, for the Class I railroads, with the precise figure varying within that range for each particular railroad. It may be that, for regional and short-line railroads, the level of fully allocated costs is higher than the range provided in text, because they have less traffic over which to recover their fixed costs. Setting the access fee at fully allocated costs, whatever the percentage of variable costs may be, would resolve any cost-recovery issue for all of the railroads, including Class III railroads. For the reasons stated *supra,* merger and acquisitions premiums should not be included in such costs. Regulation exists to protect customers from such unnecessary costs, for which customers derived no benefits.

[29] *Conrail, supra.*

pricing, given the position they have argued for and succeeded in convincing the Board to establish.

Some may argue that, given the jurisdictional threshold in 49 U.S.C. § 10707, the Board cannot set an access fee at less than 180% of variable costs. Westlake does not share this view, because the Board would not be setting a maximum reasonable rate, but rather would be setting an access fee akin to the trackage rights fee in merger and acquisition proceedings. In any event, if the access fee were set at 180% of variable costs, it would be substantially above the level of fully allocated costs on any railroad (at least, any Class I or Class II railroad) of which we are aware, and would therefore be more than fully compensatory

An access price, whether determined as the combination of (a) reciprocal switching charge or to the fee for terminal trackage rights imposed by the landlord railroad, and (b) the operating costs of the tenant railroad, as discussed *supra* in the context of merger and acquisition proceedings, or as a "haulage fee" (*i.e.,* the fee one railroad charges another for hauling freight for the other railroad) is not in fact a "rate." When the Board has determined the fee that the tenant railroad must pay the landlord railroad in merger and acquisition proceedings, it based its determination on the amount agreed to by the railroads involved, based on their costs, in order to permit them to be competitive.[30] By definition, if the

[30] *E.g., CSX Transportation, Inc. and Norfolk Southern Railway Co. – Control – Consolidated Rail Corporation*, 3 S.T.B. at 344-45 (rejecting Indianapolis Power & Light Company's proposal to set the fee at 16 cents/car-mile, on the basis of the variable costs involved, and instead setting it at CSX's fully allocated costs of

involved railroads thought the fee they had agreed to in order to use each other's tracks permitted them to be competitive with each other, it is both a compensatory, and competitive, access fee.[31]

In any event, we are not aware of any authority for the proposition that a terminal trackage rights fee, or a reciprocal switching charge, or haulage fee, all of which are paid by one railroad to another, are considered "rates," requiring proof of market dominance and the application of the Board's maximum reasonable rate standards if they were to be challenged before the Board.[32]

B. How Should the Board Set "Segment Rates, Such as Constrained Market Pricing Principles, or an Alternative Set of Principles, Such as Cost-Based Pricing Principles or Efficient Component Pricing?" "What Role, If Any, Should a Carrier's Current Financial Standing and Future Prospects Bear in This Determination?"

Westlake very much believes that the Board's "stand-alone cost" ("SAC") methodology is far too costly, complicated, and time-consuming to be the only appropriate methodology for determining maximum reasonable rates on coal or other commodities. Westlake, of course, does not object if a rail shipper chooses to use the SAC methodology; such a decision may be rational under the Board's

29 cents/car-mile, the lowest total costs of the three railroads, Conrail, CSX, and NS, there involved).

[31] *Conrail, supra,* 3 S.T.B. at 345 (trackage rights fee "will permit each carrier to provide effective competition through trackage rights…").

[32] Compare *Union Pacific R.R. Co. v. ICC*, 867 F.2d 646 (D.C. Cir. 1989) (shipper complaint about railroad rates requires proof of market dominance, rather than application of the Board's "unreasonable practice" standard without consideration of market dominance).

existing policies, because SAC generally produces the lowest-possible rate.[33] Our point simply is that the time may have come when the STB should consider whether, given the cost[34] and complexity of SAC proceedings, the Board should consider whether SAC is still the appropriate standard, given the fact that the circumstances under which SAC may be appropriate generally do not exist in the U.S. railroad industry.

It is also important to know that there is considerable academic support for the notion that the conditions in which the SAC methodology might be appropriate – a highly contestable market, among others, which is clearly not the case for the railroad industry, if it ever was – means that the Board's use of the SAC methodology (or at least its required use) may not be appropriate, even if the Board were to consider the "access pricing" charge to be a "rate" subject to

[33] Among the reasons that is so is the fact that the STB imposes "remedy caps" on the relief available to a prevailing shipper under its "three-benchmark" and "simplified SAC" guidelines - $1 million/5 years for the former, $5 million/5 years for the latter. S.2889 would have raised those caps. Westlake would eliminate the caps, because the "three-benchmark" and "SSAC" methodologies generally produce maximum reasonable rates with higher R/VC ratios than does the SAC methodology. Therefore, there is no reason to impose the remedy caps, because the shipper is already being penalized as compared to what the SAC methodology would produce. Given the remedy caps and the fact that the "three-benchmark" and SSAC guidelines will produce higher maximum reasonable rates than does the SAC methodology, it is clearly appropriate to retain the SAC methodology, at least until a surrogate R/VC ratio that is approximately the result that the SAC methodology would otherwise produce can be established, as Dr. Pittman of DOJ recommended.

[34] For most shippers, the time, cost, and complexity of SAC - $5 million in a typical case, $8 million for Western Fuels/Basin Electric – make it prohibitively expensive. Westlake believes that the time has come for a reasonable alternative to SAC, for those shippers who choose not to proceed under SAC.

challenge under one or more of the Board's maximum reasonable rate standards.[35]

Westlake also observes that ICC committed, by adoption of the so-called "revenue adequacy constraint" in *Coal Rate Guidelines, Nationwide,* 1 I.C.C.2d 520 (1985), *aff'd sub nom. Consolidated Rail Corp. v. ICC,* 812 F.2d 1444 (3rd Cir. 1987), that, if a railroad achieves revenue adequacy, a rate standard lower than (and, therefore, different from) SAC would apply. However, the ICC did not then say what that standard would be, and since that time, neither the ICC nor the STB has addressed the question. The time has come for the STB to say what that standard should be.

The recent filing by Southern Mississippi Electric Power Association of a rate-reasonableness complaint against the revenue-adequate Norfolk Southern

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[35] *E.g.*, "*Against the Stand-Alone-Cost Test in U.S. Freight Rail Regulation*," April 2010 by Russell Pittman, Ph.D., Director of Economic Research, Economic Analysis Group, Antitrust Division, U.S. Department of Justice, and visiting professor, New Economic School, Moscow (copy attached). The abstract states: "The stand-alone-cost test has become an expensive, extensive, and time-consuming part of the regulatory practice of the U.S. Surface Transportation Board in the performance of its statutory duty to protect "captive shippers" from monopoly rail rates. Worse, a close examination of the history of its adoption and application suggests only a very tenuous connection with its claimed intellectual foundations, the classic works of Faulhaber (1975) and Baumol, Panzar, and Willig (1982). It is time to retire this tool and replace it with something simpler and more effective and transparent." Westlake submits that the use of R/VC ratios, as the Board does in the "three-benchmark" proceedings, or the application of a defined number of cents/ton-mile, as when the terminal trackage rights fees are set, would be far preferable to the continued application of SAC. But we realize that the Board did not ask for comments on whether the SAC methodology should be the only methodology available for coal shippers, or for those shippers who are seeking more than $5 million in relief over 5 years. Accordingly, we limit these suggestions to the access fee-issue, and not the broader rate standards.

Railway[36] in STB Docket No. 42128 offers the Board the opportunity, at last, to determine what the rate-reasonableness standard should be for such a railroad. That issue will be litigated in that proceeding, presumably, so we offer no argument at this time about the standard that should apply in that proceeding or in similar proceedings.

VII.

THE IMPACT OF THE CHANGES SHIPPERS PROPOSE WOULD GREATLY IMPROVE THE U.S. ECONOMY, THE COMPETITIVENESS OF U.S. RAIL SHIPPERS, AND WOULD NOT PREVENT RAILROADS FROM EARNING ADEQUATE REVENUES.

The Board should consider of the utmost importance the question whether railroad rates and other charges have been increased to such an extent that they are now clearly harming the U.S. economy, in any number of ways. CURE and other shipper parties are providing examples of the widespread harm to the U.S. economy that high rail rates and poor railroad service cause, so Westlake will not burden the record by repeating them, other than to recite some recent problems that E.I. DuPont de Nemours & Company ("Dupont") and Total Petrochemicals

[36] The STB found that NS was "revenue-inadequate" in 2009, but it also found it to be "revenue-adequate" before that. Moreover, South Mississippi Electric Power Association alleges that NS will again be revenue-adequate after 2009. The STB views revenue adequacy as a multi-year matter, so the mere fact that NS had lower profits in 2009 than in prior years, just as virtually every company in the United States did, does not prove it is revenue-inadequate" in the long term. In any event, based on Westlake's firmly held view that the railroads have in fact been revenue-adequate for over a decade, Westlake asserts that NS is revenue-adequate, no matter what the STB's findings, based on the methodology criticized by Professors Kahn and Hass and Dr. Levine, show.

Company have brought to the Board, because they are representative of rail problems Westlake has had.

Competition with Foreign Interests. Westlake does want the Board to understand that U.S. railroads do not compete with railroads in China, India, Europe, or any other part of the world economy --- but most of their customers, especially chemical, grain, and other manufacturing interests, compete with grain, chemical, and manufacturing interests in those countries. Even those customers, such as electricity generators, which generally do not compete with foreign entities,[37] charge rates for electricity that directly reflect the rail rates they are charged to move coal to generating stations. Therefore, in many instances when a rail customer is charged an excessive rate, whether the customer is a chemical company competing in a global marketplace, or a coal shipper using the coal to generate electricity for an American manufacturing facility, it hurts American industry's ability to compete with China and other foreign countries and the industries in those countries.[38] Conversely, every dollar by which US industry can reduce its shipping costs is a dollar that goes toward creating American jobs.

[37] There is a limited amount of electricity that moves across the U.S.-Canadian border, depending on availability and price. Similarly, there is a limited amount of competition between U.S. and Canadian railroads. Neither circumstance is significant enough to affect the overall picture in most markets, given that rail lines and electricity transmission lines are typically not located in ways that promote competition between the U.S. and Canada. Kansas City Southern is attempting to compete in Mexico for container business that is now carried by BNSF and UP, but KCS's share of the container market is small.

[38] The problem is worse than may be immediately apparent, because oftentimes, if a shipper has two railroads serving its plants, the railroad not now serving that shipper often will not provide a rate, or at least provide anything close to a competitive rate, to compete for the business. Yet, under the Board's market-dominance standards, that shipper is presumed to have competitive rail service,

Chemicals. Chemical shippers have filed a number of rail rate challenges in recent years. Of greatest relevance to the Board's question about impacts on the U.S. economy, Dupont filed several rate complaints in the last few years. In December 2008, Dupont sought a preliminary injunction against CSX to prevent substantial rate increases from taking effect. Accompanying Dupont's motion were several affidavits, including one from a Dupont customer, Occidental Chemical Corporation ("Oxy Chem"). Oxy Chem's Affidavit demonstrated that the rail rate increases Dupont complained of would, if put into effect and passed through in Dupont's prices to Oxy Chem, cause Oxy Chem to lose chemical business at its sole production facility for resorcinol, a chemical adherent used for automobile tires, to a competitor in China.[39] CSX settled with Dupont before the STB ruled on the motion.

The evidence before the Board in various Dupont rate complaint proceedings shows rates with R/VC ratios as high as 500-750% or more. Others, such as Total Petrochemical Company, demonstrated that the R/VC

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and cannot complain about the reasonableness of the rate it is being charged. NAPCO was fortunate that WSOR was willing to fight DM&E to serve NAPCO's Janesville, WI facility, as discussed *supra,* but that is very much the exception that proves the general rule.

[39] Affidavit of Robin A. Burns, Vice President-Supply Chain, Oxy Chem, filed Dec. 2, 2008 by Dupont in *E.I. Dupont de Nemours and Company v. CSX Transportation, Inc.,* STB NOR 42112 ("INDSPEC ships approximately **[protected material redacted]** tons of product by rail mainly to the automotive markets. This business is currently under tremendous pressure from increasing raw material prices, increasing competition from China, as well as falling domestic demand for original equipment tires due to current economic conditions that are dramatically reducing automotive sales. **[Protected material redacted.]** The additional rail costs INDSPEC would incur while Dupont presents their large rate case will cause irreparable damage to its business going forward.").

ratios for its rates are as high as 1000% or more, for chlorine. Similar showings have been made by other chemical shipper Complainants. Consistent with the December 2008 Affidavit of Ms. Burns, Vice President-Supply Chain of Oxy Chem, cited *supra,* chemical shippers have reported to CURE that it is often cheaper to produce their products in Asia or the Middle East, and then ship them by ocean carrier to the United States for delivery to the chemical company's customer, rather than to produce the chemicals in the U.S. and ship them by rail to the same customer. These circumstances demonstrate that the railroads could make *higher* returns, not *lower* returns, if they reduced their rates (as CSX apparently did in its settlement with Dupont, else Dupont presumably would not have withdrawn its motion for a preliminary injunction and eventually settled that dispute with CSX).

The point is clear – high rail rates harm U.S. producers of electricity, chemicals, grain, lumber, and other products, and therefore not only deprive U.S. customers of funds that could otherwise be used to produce jobs through demand in this country, but in many cases, are so high as to effectively cause manufacturers to produce their products abroad, costing the U.S. valuable jobs.

Notwithstanding the high rates that many rail shippers pay, most (including Westlake) have generally been unwilling to file complaints with the STB to challenge those rates. Among the reasons are fear of retaliation, the incredible expense of STB rate litigation (SAC cases can cost $5 million or more), and the time involved (the Board has estimated that SAC proceedings take over 3.5 years to litigate).

For the same reasons, the railroads lose relatively little money as a result of rail rate decisions by the STB, and have prospered despite regulation of the rates on a very few shipments that they carry, compared to the tens of thousands of rates that they have published. They are now so prosperous that even a somewhat increased level of rate regulation would not come close to rendering the railroads revenue-inadequate, as measured by market-to-book ratios (as Professor Kahn recommended), or ROE and average earnings growth (the standards Wall Street uses). In contrast, the reduced charges paid by shippers often make the difference whether U.S. manufacturers retain or lose business, which has an effect far beyond the shipper's direct business in downstream jobs resulting from those products.

The number of jobs in the electricity, chemical, farm, steel, and lumber sectors alone dwarf the number of jobs in the U.S. railroad industry. Moreover, the railroads reduced the number of jobs in the railroad industry over the last few decades, by an enormous amount. So, the enormous reduction in jobs in the railroad industry ought to be compared to the adverse impact on jobs among the rail customers, which means most of the economy.

In any event, if railroads set their rates to grow their customers' businesses, as the above examples show they easily could, they may gain, rather than lose, revenue, and become even more revenue-adequate than they now are.

VIII.

FERC's INTRODUCTION OF COMPETITION INTO THE NATURAL GAS PIPELINE INDUSTRY WAS A SUCCESS, AND DID NOT PREVENT THAT INDUSTRY FROM BEING ABLE TO ATTRACT CAPITAL.

Experience in other industries demonstrates that the railroad industry can adapt to, and thrive in, a competitive environment. Many industries have been made more competitive in recent years, by a variety of governmental actions. A particularly useful case in point is the natural gas pipeline industry.

The Federal Energy Regulatory Commission ("FERC") regulates the natural gas pipelines under the Natural Gas Act ("NGA").[40] FERC set out to introduce competition into that industry by regulatory action in the 1980s. Prior to that time, natural gas pipelines not only transported gas but also sold it in one "bundle" to customers. Traditionally, after producers extracted the gas, pipelines bought it at the wellhead, transported it, and then resold it to local distribution companies.[41] Under the authority of the NGA, FERC regulated the sale for resale of natural gas as well as the interstate transportation of the gas, leaving the states to regulate local distribution.[42]

Prior to FERC's introduction of competition into the natural gas pipeline industry, the natural gas industry as a whole suffered several supply-and-demand problems. In the 1970s, the lower-than-market wellhead price of gas caused a shortage and few producers wanted to search for new sources

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[40] 15 U.S.C. § 717 (2006).
[41] *United Distribution Cos. v. FERC*, 88 F.3d 1105, 1122 (D.C. Cir. 1996) (*citing* Edward C. Gallick, COMPETITION IN THE NATURAL GAS INDUSTRY 9-12 (1993)).
[42] *Id.* at 1122.

because the economic return was too low.[43] In response to that situation, Congress passed the Natural Gas Policy Act of 1978,[44] which then allowed purchasers of natural gas to enter into "take or pay" contracts.[45] Naturally, demand decreased due to the rising prices.

In the late 1980s and early 1990s, without legislation requiring it to do so, FERC issued two orders which restructured the natural gas pipeline industry and brought about the current competitive climate. First, Order No. 436[46] established "open access" requirements on pipelines, requiring owners to agree to non-discrimination requirements in order to receive blanket certificates for third-party transmission.[47] The D.C. Circuit mostly upheld FERC's decision, although the Court vacated and remanded the case to FERC due to its treatment of the "take or pay" contracts.[48] According to the Court, FERC's new requirements coupled with the "take or pay" contracts actually may "bring about a wasteful imbalance between pipeline sales and unbundled transportation service."[49] Therefore, the Court remanded the matter for the FERC to consider that issue.[50]

Thereafter, FERC issued another Order that effectively completed the transition to a competitive market for the natural gas pipeline industry, Order No.

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[43] *Id.* at 1123.
[44] 15 U.S.C. § 3301 (2006).
[45] *United Distribution Cos., supra,* 88 F.3d at 1123 (*citing* Richard J. Pierce, Jr., *Reconstituting the Natural Gas Industry from Wellhead to Burnertip*, 9 ENERGY L.J. 1, 11-16 (1988)).
[46] *Regulation of Natural Gas Pipelines after Partial Wellhead Decontrol*, FERC Stats. & Regs. p 30,665 (1985).
[47] *United Distribution Cos., supra,* 88 F.3d at 1123.
[48] *Associated Gas Distrib. v. FERC*, 824 F.2d 981, 1044 (D.C. Cir. 1987).
[49] *Id.*
[50] *Id.*

636.[51] In that Order, FERC created mandatory unbundling of pipelines' sales and transportation services.[52] The D.C. Circuit upheld most of Order No. 636 while remanding certain aspects of the order.[53] The current competitive environment in the natural gas pipeline industry resulted.

Today, the natural gas pipeline industry is financially healthy, notwithstanding the competitive environment FERC created. Although pipelines and local distribution companies are still regulated to some extent, natural gas producers and marketers are not directly regulated.[54] FERC's approach allows the market to determine prices as well as marketers, producers, LDCs, and even end-users to procure transportation on pipelines on an open and non-discriminatory basis.[55] In fact, the natural gas industry as a whole works more seamlessly under its current structure than it did with its supply and demand problems of the past.

Similarly, the railroad industry stands to gain from the introduction of competitive forces. Over the past decade, as previously noted (and as the Board's own Study, performed by L.R. Christensen & Associates, acknowledged), railroad rates have been increasing substantially, much like the

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[51] Order No. 636, *Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation; and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol*, Order No. 636, FERC Stats. & Regs. ¶ 30,939, at p. 30,393, *order on reh'g*, Order No. 636-A, FERC Stats. & Regs. ¶ 30,950, *order on reh'g*, Order No. 636-B, 61 FERC ¶ 61,272 (1992), *order on reh'g*, 62 FERC ¶ 61,007 (1993), *aff'd in part and remanded in part sub nom. United Distribution Cos. v. FERC*, 88 F.3d 1105 (D.C. Cir. 1996), *order on remand*, Order No. 636-C, 78 FERC ¶ 61,186 (1997).

[52] *United Distribution Cos., supra,* 88 F.3d at 1126.

[53] *Id.* at 1191.

[54] *See The Market Under Regulation* at http://www.naturalgas.org/regulation/market.asp (maintained by the Natural Gas Supply Association).

[55] *Id.*

rising price of natural gas in the1980s.[56] Just to recite one obvious example well-known to the Board, coal transportation rates have risen dramatically.[57] If the railroad industry follows the same de-regulatory path as did the natural gas pipeline industry and other industries, CURE maintains that it would in fact benefit from the transition to competition.

It has been more difficult to introduce competition into the electricity industry. FERC Order Nos. 888[58] and 890[59] attempted to restructure the electricity industry as Order Nos. 436 and 636 did for the natural gas pipeline industry. However, State jurisdiction over local distribution of electricity prevents the complete conversion to a competitive market. States regulate retail rates for the sale of electricity, and state and federal jurisdictional lines can be unclear. These jurisdictional complications do not apply to the railroad industry; the

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[56] Laurits R. Christensen Associates, Inc., AN UPDATE TO THE STUDY OF COMPETITION IN THE U.S. FREIGHT RAILROAD INDUSTRY, Final Report 2-5 (January 2010).

[57] *Id.* at Figure 2-2.

[58] *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Services by Public Utilities; Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, 61 FR 21540 (May 10, 1996), FERC Stats. & Regs. ¶ 31,036 (1996), *order on reh'g*, Order No. 888-A, 62 FR 12274 (Mar. 14, 1997), FERC Stats. & Regs. ¶ 31,048 (1997), *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in relevant part sub. nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002) (mandating open access for wholesale sales over electric transmission lines).

[59] *Preventing Undue Discrimination and Preference in Transmission Service*, Order No. 890, FERC Stats. & Regs. ¶ 31,241, *order on reh'g*, Order No. 890-A, FERC Stats. & Regs. ¶ 31,261 (2007), *order on reh'g,* Order No. 890-B, 123 FERC ¶ 61,299 (2008), *order on reh'g*, Order No. 890-C, 126 FERC ¶ 61,228 (2009), *order on reh'g*, Order No. 890-D, 129 FERC ¶ 61,126 (2009) (strengthening the concepts behind Order No. 888).

Board's jurisdiction over the regulation of railroad rates, services, certificates, abandonments, and mergers and acquisitions, is "exclusive."[60]

Therefore, the railroad industry is analogous to the natural gas pipeline industry rather than to the electricity industry. The Board, as a result of its exclusive economic jurisdiction over the railroad industry, is in the same position FERC was in to effectuate a smooth transition to a more competitive world for the railroad industry.

Conclusion

For the foregoing reasons, the Board should (1) find that the railroad industry is financially strong and that some railroads, at least, are earning more than adequate revenues, (2) determine that shippers should have the right to route their shipments over alternative routings, (3) repeal the MidTec decision so that shippers do not have to prove "competitive abuse" to get competitive access, (4) promote reciprocal switching to encourage rail-to-rail competition, (5) overturn the "bottleneck rate" decisions so that shippers can require railroads to quote a rate between any origin and interchange point, or interchange point and destination, on their combined systems, and (6) establish pro-competitive access-pricing rules. The Board should declare that the impacts of these changes will be of benefit to the general economy, U.S. competitiveness, rail shippers, railroads, and the general public.

[60] 49 U.S.C. § 10501(b).

Respectfully submitted,

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Attachment A

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STATEMENT OF PROFESSOR ALFRED E. KAHN

AND

REPORT OF PROFESSOR JEROME E. HASS

ON

RAILROAD REVENUE ADEQUACY STANDARDS

FEBRUARY 1997

STATEMENT OF PROFESSOR ALFRED E. KAHN[1]
ON RAILROAD REVENUE ADEQUACY STANDARDS

The attached analysis by Professor Jerome E. Hass of the methods by which the Surface Transportation Board ("STB") determines whether individual railroads are or are not "revenue adequate" and of the results it produces demonstrate, incontestably in my view, that

- the method itself is totally discredited;
- its flaws are irremediable, and
- any attempt at this stage to devise an alternative method would not only be costly but would serve no useful purpose.

In these circumstances, it is my considered opinion that STB's entire exercise to determine the adequacy of railroad revenues should be abandoned.[2]

I. The method is discredited, quite simply, by the nonsensical results it produces. The core of the economic concept of revenue adequacy is as a test of the ability of a company to raise capital to undertake any and all economically justifiable investments. To this strictly economic criterion might arguably be attached the additional traditional regulatory condition that the company be able to raise that capital without diluting the equity of its existing shareholders.[3]

This criterion translates into the requirement that present holders as well as future purchasers of the company's stock must see a reasonable prospect that it will earn a return at least equivalent to the cost of capital on the totality of the net book value of its investments or assets.

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[1] Robert Julius Thorne Professor of Political Economy, Emeritus, Cornell University; Special Consultant, National Economic Research Associates, Inc.

[2] Insofar as the STB undertakes annual revenue adequacy reviews in order to meet the requirements of Section 205 of the Railroad Revitalization and Regulatory Reform Act of 1976, adoption of my recommendation would require legislative action.

[3] See the demonstration in my *The Economics of Regulation* that a company may be able to raise capital for all efficient future investments, but only at the expense of such dilution, when it is either able or permitted by its regulators to earn (more precisely, because future investors expect it to be able to earn) something less than the cost of capital on the totality of its investments (Vol. 1, pp. 46-47).

There is a simple market measure of whether that requirement is or is not being met—namely, the relationship between the market value of the company's stock—the price that new purchasers are willing pay for it and at which existing shareholders willingly continue to hold it—and its net book value. If that ratio is equal to or greater than unity—that is, if the market value equals or exceeds net book value—that means that investors collectively expect earnings on invested capital to exceed the cost of capital.

In its revenue adequacy determination for 1995, the STB found that 8 of the 11 Class I railroads were "revenue inadequate." Here are the market to book ratios at the end of 1995 and 1996 for the six Class I railroads in the revenue inadequate group that are publicly traded:

RAILROAD	1995 MARKET-TO-BOOK RATIO	1996 MARKET-TO-BOOK RATIO
AT & SF	2.32 (a)	2.30 (a)
Burlington Northern	2.32 (a)	2.30 (a)
Conrail	2.13	2.81
CSX Transportation	2.26	1.88
Kansas City Southern	2.60	2.23
Southern Pacific	3.53	2.13(b)

(a) BN and AT&SF were merged during 1995; ratios are for BNSF.
(b) SP was merged in 1996 with UP; ratio for 1996 is UP ratio.

Observe that in every case the market/book ratio is well in excess of unity: the lowest ratio is 1.88, the average is 2.41 and the median 2.30

I find this comparison definitive. Clearly investors collectively expect the prices these companies can be expected to be able to charge and the volume of business they can be expected to attract will be far more than sufficient to produce a return in excess of the costs of capital—and are therefore willing to make capital available to them on terms that involve no dilution of existing shareholders' equity.[4] While it could be argued that the observed deviations

[4] The willingness of these railroads to plow back earnings rather than pay them out as dividends further cooberates this conclusion. Since they are not subject to an obligation to serve, it would be irrational for them to reinvest (continued...)

between market prices and book values are to at least some extent attributable to non-railroad assets and operations. It is highly unlikely that these very high ratios can be entirely explained by those operations, as Professor Hass explains.

II. The force of this evidence is magnified by the consideration, also adduced by Professor Hass, that the net book value of the assets of these companies has been inflated as a result of acquisitions and/or mergers. Whenever and wherever the net book value of a company's stock or assets has served as the basis for determining its permissible return for regulatory purposes—as it is in the STB's revenue adequacy calculations—its is axiomatic that those book values must be based on the original cost of the assets. As the U.S. Supreme Court has recognized, to incorporate market-value-based write-ups in the rate base to which the allowable rate of return is applied in determining a regulated company's revenue requirements or entitlements—which in turn determine its allowable prices—is to introduce a fatal circularity into the process: allowable prices are set on the basis of the market value of assets which must be based in turn on the expected prices.

It would similarly eviscerate the regulatory process if the net book value that serves as the investment base in these revenue adequacy calculations were not the original cost of the assets when they were first constructed or acquired but the prices at which they were subsequently valued in or as the result of asset transfers, mergers or acquisitions. To permit rates (or calculations of revenue adequacy) to be based on the prices of those subsequent transfers would be to permit easy evasion of regulation: the assets could be transferred at prices inflated above net original cost and those inflated valuations would then automatically be translated into correspondingly inflated revenue or return targets for subsequent revenue adequacy calculations.

(...continued)

retained earnings in this way if they did not expect the investments to earn an adequate return. For 1995 and 1996, the average retention rates [for these "non-revenue-adequate" carriers?] were 80 and 76 percent, respectively, with the lowest being 65 percent (Conrail in 1996).

Yet, as Professor Hass points out, this is exactly what has happened in the present instance: the asset valuations entailed by the numerous mergers, acquisitions, consolidations and reorganizations of railroads since 1980 have found their way into the book values on the basis of which the revenue adequacy assessments have continued to be made—in a self-justifying cycle of upward valuations of assets and correspondingly increased net revenues required for revenue adequacy.

I emphasize that this flaw is in addition to the—already decisive—record of prevailing market to book ratios far in excess of unity: the ratios would presumably be even higher if the denominators reflected the true (depreciated) original acquisition costs of the companies' assets rather than the prices at which they have been transferred to other railroads or new surviving entities.

III. Not only would an archeological endeavor by the STB to redetermine the true original costs for the railroads (let alone remedy all the other deficiencies in the STB's methods that Professor Hass identifies) be somewhere between extremely difficult and impossible. The final decisive consideration is that it would serve no useful purpose. The continuing effort to assess revenue adequacy is a vestigial carryover from the era of thoroughgoing regulation of the railroads, public-utility-style. But the railroads have been deregulated for more than 16 years. With most rail traffic moving under contract or exempt from regulation, the only remaining regulation is of the rates they charge captive shippers. The ceiling applied by the agency in every major rate case during the past dozen years in fulfillment of that responsibility—stand-alone cost—makes no use of revenue adequacy determinations; and I am informed that there are no recommendations, by either shippers or carriers, that the stand-alone cost ceilings be modified either upward or downward on the basis of those determinations.

* * * * *

In sum, the present method of determining revenue adequacy produces results totally discredited by the ultimate test—the behavior of investors and financial markets; it incorporates a fatal circularity; and it serves no purpose such as might justify the forbidding effort to correct those defects. It is time to give the exercise the burial—decent or otherwise—that it has richly earned.

AN EVALUATION OF THE MEASUREMENT AND USE OF THE STB'S ANNUAL RAILROAD REVENUE ADEQUACY DETERMINATION

Jerome E. Hass[1]

I. INTRODUCTION

Price regulation of commerce is called for in situations where workable competition (existing or potential) is deemed ineffective. Traditional regulation relied on the principle that regulation should emulate that which would occur in a competitive market—where prices are cost-based. Traditional regulation thus allows the regulated entity to charge prices that are no greater than the prudent costs incurred in providing the good or service in question.

An important element of the cost of service is the return allowed on invested capital. As articulated in the famous Supreme Court Hope and Bluefield cases, the return on invested capital must be sufficient to allow the regulated entity to attract and retain the capital necessary to provide adequate service. This gives rise to the measure called the cost of capital and the court mandate that a regulated entity must have revenues sufficient to cover not only operating costs but also allow the enterprise the fair opportunity to earn its cost of invested capital.

Under the Railroad Revitalization and Regulatory Reform Act of 1976, the Interstate Commerce Commission ("ICC") was charged with the responsibility to develop and promulgate railroad revenue adequacy standards. With the passage of the Staggers Rail Act of 1980, full regulation of railroad prices and service became history. But there are still selected situations which call for railroad regulation and it appears that findings regarding railroad revenue adequacy play an important role in some aspects of that regulation.[2] While Congress abolished the ICC at the end of 1995, its successor, the Surface Transportation Board ("STB" or "Board"), was given the responsibility of continuing to determine whether railroads are revenue adequate.

[1] Professor of Finance & Business Strategy, Johnson Graduate School of Management, Cornell University, and Special Consultant, National Economic Research Associates.

[2] It is apparently common for the railroads to refer to the fact that the majority of Class I railroads fail the STB's revenue adequacy test in cases where the Board has jurisdiction, both those involving possible rate reductions and other contexts (such as mergers and line crossings).

The purpose of this report is to examine the reasonableness of the measure used by the STB to determine railroad revenue adequacy. As demonstrated below, the measure used by the STB is fatally flawed and is clearly giving erroneous signals. Given that the flaws are not easily remedied, that the railroads are financially very healthy, and that there is no meaningful regulatory role for revenue adequacy determinations to play, it is time to abolish the requirement for this arcane and meaningless exercise.

II. MEASURING REVENUE ADEQUACY

The application of the principle of allowing a regulated entity the opportunity to earn the cost of capital on its invested capital appears to be straight-forward and gives rise to the notion of revenue adequacy. As practiced by the STB, revenue adequacy is the simple determination as to whether a railroad's most recent year's revenues produced operating income (revenues less operating costs) that resulted in earning a return on invested capital at least a great as its cost of capital. In making this comparison, the STB first determines the railroad industry's cost of capital (which it estimated to be 11.7 percent for 1995) and then compares the rates of return earned on invested capital by each of the Class I railroads to that cost of capital in order to judge whether these railroads are "revenue adequate," where a railroad's revenue is deemed adequate if its rate of return on average invested capital equals or exceeds the estimated cost of capital for the industry.

RETURN ON INVESTMENT. The STB's measure of the rate of return on invested capital is the ratio of after-tax income from railroad operations to capital invested in railroad assets (the average of railroad assets , including working capital, less accumulated deferred income taxes). The STB's measure of rate of return on invested capital, which it calls "Return on Investment" or "ROI," is seriously flawed for a number of reasons.

First, the numerator includes one-time "special charges" that can materially alter the reported ROI. The Association of American Railroads ("AAR") reported that during 1995 seven Class I railroads recorded special charges totaling $1.742 billion on a pre-tax basis. *Analysis of Class I Railroads, 1995*, p. 4. On an after-tax basis ($1.132 billion using a 35% tax rate), the overall return on capital for the industry would increase from 7.7 to 10.3 percent if these special charges were not considered![3]

Second, there are problems with the denominator of the STB's ROI measure because of the book accounting treatment of mergers in the industry. While major mergers, such as ATSF/BN and SP/UP get lots of attention, smaller scale acquisitions take place all the time (such as BN's acquisition of Washington Central, IC's purchase of CCP Holdings and KCS's acquisition of MidSouth Corporation and its purchase of 49 percent of the shares of Mexrail, which owns Tex-Mex). These acquisitions or mergers are usually made at premium prices over the book values of the underlying assets. To the extent that the intangible value paid is reflected in the subsequent value of railroad assets, the denominator of the STB's measure of return on investment no longer reflects depreciated original cost and the notion of earning a reasonable return on cost is lost.[4]

The flaw actually creates a problem with the numerator as well—because the intangible assets created by the acquisition are subsequently amortized, reducing the operating income (similar to depreciation expenses). Hence the overall effect of the accounting for acquisitions at prices in excess of book values is to increase the denominator and reduce the numerator of the ROI measure in subsequent years.[5]

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[3] In a recent STB filing regarding "bottleneck" issues, James N. Heller noted in his Verified Statement that the removal of these one-time charges in order to reflect more fundamental profitability resulted in the ROIs of individual railroads increasing from 0.4 percent to 61.1 percent. For example, the combined BNSF ROI would increase from 5.8 percent to 9.7 percent if the expenses of $735 million associated with "merger, severance and asset charges" were removed from the numerator of the ROI calculation (on an after-tax basis).

[4] The extent to which book values increase through this process is unknown. In 1994, UP and CNW reported Net Road and Equipment values of $9.141 and $1.413 billion, respectively, and $10.55 billion in total. In 1995, after the acquisition was complete, the combined UP/CNW reported Net Road and Equipment of $13.52 billion, for a composite increase of nearly $3 billion in Net Road and Equipment. UP's acquisition of the 70 percent of CNW that it did not already own was for about $1.2 billion, which was about $1 billion more than its book value. The extent to which the $1 billion is reflected in the $3 billion increase is unclear. Heller (see fn. 3) reports that the acquisition of SF by BN resulted in a "write-up" of $2.8 billion in SF's investment base and that UP's acquisition of SP will result in a write-up in 1996 of $2.9 billion in SP's investment base.

[5] There also appears to be another flaw in the STB's ROI measure. The STB bases the numerator of its return calculation on Net Railroad Operating Income, taken from Schedule 210 of Form R-1. Net Railroad Operating Income excludes both the income from the leasing of railroad assets and lease payments for leased railroad assets. Insofar as the leased railroad assets are included in the denominator of the ROI measure, the income

(continued...)

Third, ROI, like many short-term measures, also suffers from extreme swings as railroad operating margins change over time.[6]

COST OF CAPITAL. The cost of capital for the Class I railroads is determined by the STB as the weighted average of the costs of debt (in various forms), preferred equity, and common equity, where the weights are the market values of the various forms of capital. The STB's cost of capital measure also has several serious flaws.

First, the Board's analysis inappropriately mixes before-tax and after-tax costs of debt and equity, respectively; given the return on railroad investment is expressed on an after-tax basis, then the interest expense component of the weighted cost of capital should be adjusted to reflect the tax deductibility of interest as a matter of economic consistency.

Second, the weights used in the cost of capital estimation should be based on book values of debt , preferred and common equity, not market values; given that market values for the stocks of the railroads are substantially in excess of their book values, this mis-weighting results in a substantial overstatement of the cost of capital for the railroads[7].

Third, the STB's estimate of the cost of equity is based on a constant dividend growth rate stock price model (sometimes called the "discounted cash flow" model); the growth component is set at 10.69 percent, a rate that is impossible to sustain in perpetuity; in an economy with an expected inflation rate of about 3 percent, a real growth rate of 7.7 percent would eventually result in the railroads overtaking the world.[8]

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therefrom (and the lease expenses associated with those assets that helped product operating income) should not be excluded.

[6] For example, Southern Pacific's Net Revenues from Operations fell from $224 million to a negative $21 million from 1994 to 1995.

[7] It is easy to get confused on this issue. Most finance textbooks advocate the calculation of the weighted cost of capital using market value weights, a prescription that is perfectly correct for a non-regulated entity seeking an estimate of its cost of capital as a hurdle rate for forward-looking investment decision-making. But in a regulated rate-setting context, the return is allowed on the historic cost of the net assets (rate base) and is set to earn the costs of debt and equity capital on the book values of the debt and equity.

[8] The growth component was based on five-year earnings per share growth projections made by security analysts. While several studies have tested the reasonableness of such projections as indicators of investor expectations and found them to have explanatory power, regulatory agencies that face cost of capital problems on a repeated
(continued...)

Fourth, although insignificant in 1995 (only 1.2 percent of total capital), the cost of preferred stock was severely understated because the cost of Conrail's Series A ESOP convertible junior preferred (the dominant issue of preferred stock outstanding among the Class I railroads) was set at its market dividend yield of 3.03 percent; the stock is clearly selling on the basis of its conversion value and should be treated as common stock with common stock cost.

If these four changes are made to the cost of capital estimate, the result is a reduction in the weighted cost of capital from 11.7 percent (as reported in the STB's "Railroad Cost of Capital—1995," Ex Parte 523, June 5, 1996) to 10.3 percent. The latter is based on a cost of debt of 7.4 percent before tax (as per the STB), an income tax rate of 35 percent, a 12.5 percent cost of equity (STB's estimate was 13.4 percent) and a 29/71 debt-to-equity capital structure (based on book values as reported in *Analysis of Class I Railroads, 1995*, Association of American Railroads, lines 76, 78, 79, 80, 81, 82 and 97).[9]

Note that simply adjusting the ROI to exclude one-time ("special") charges and adjusting the cost of capital estimates, as discussed above, results in the industry ROI equaling the estimated industry cost of capital—implying that, without further adjustment for acquisition write-ups, the industry is revenue adequate.[10]

(...continued)
basis have expressed concerns about sole reliance on such short-term forecasts. See, e.g., Ozark Gas Transmission System, 68 FERC, ¶ 61,082, 61,107 (1994), wherein the Federal Energy Regulatory Commission found that "five year projections are not of themselves incorrect, but merely limited to too brief a time period to meet the requirement of the DCF model." Similarly, in Wyoming Interstate Company, Ltd., 69 FERC ¶ 61,259, 61,922 (1994), the Commission found that the "securities' analysts' projected growth rate for the next five years ... implicitly ignored any potential changes in the growth rate over the remaining life of the firm ... (and) is inherently inconsistent with the theory of the constant growth rate DCF model."

[9] For the set of seven Class I railroads used by the STB to calculate the industry cost of capital, the debt-to-equity ratio based on market values was estimated to be 26/74; using a conservative 2:1 composite market-to-book ratio for these railroads, the book value debt-to-equity ratio would be 41/59 and the resultant after-tax weighted cost of capital would be 9.3 percent.

[10] It should also be noted that the Board's methodology is flawed because it uses a company-specific after-tax return on investment measure that reflects the tax deductibility of interest on the specific company's debt with an industry average cost of capital. If all railroads had similar capital structures, such a comparison would be acceptable. But the utilization of debt varies substantially across Class I railroads: for example, at the end of 1995 Soo Line had a debt-to-equity ratio of 67/33 compared to CSX's 13/87; Grand Trunk Western's equity was
(continued...)

III. INTERPRETING REVENUE ADEQUACY

There is no meaningful relationship between the STB's measure of revenue adequacy and the financial well-being of the Class I railroads.

First, if investors expect that the prices of the regulated entity are or will be set so that the entity will not have the fair opportunity to earn its cost of capital, then the book value of its equity (as the residual capital suppliers) will exceed its market value.[11] In the case of the Class I railroads, at the end of 1995 market-to-book ratios for the 8 publicly-traded railroads ranged from 2.13 to 3.53 times and averaged 2.53 times.[12] This strongly suggests that investors expect the railroads to earn more than the cost of capital in the future.[13]

It should be noted that some of the divergence between market values and book values may be attributable to non-railroad assets which are carried on the books at cost but may be worth substantial sums if and when sold (such as real estate). For example, in testimony associated with its acquisition by Union Pacific, Southern Pacific Transportation Company indicated that it had a real estate portfolio worth about $1 billion.[14] This translates into about $6.40 per share, so that the remaining market value of the railroad assets for SP at the end of 1995 was about $17.60 per share, which was 2.59 times book value. Similarly, the market prices of these railroad companies also reflect non-rail activities. For example, railroad

(...continued)
negative. Given substantial variations in debt utilization, the after-tax weighted average costs of capital for the Class I railroads is likely to differ substantially between railroads and using a composite average, even if calculated correctly, would be inappropriate.

[11] For example, if the book value of the regulated firm's stock is $20 per share and the market expects the firm to earn 10 percent on its book value, then the market value of the shares will be $16 if the market requires a return on 12.5 percent to adequately compensate for time value and risk.

[12] See the attached exhibit. The highest ratio was that of Southern Pacific, which was in the midst of a merger. The next-highest ratio was Illinois Central at 3.34 times. The ratios at the end of 1996 (when the high SP ratio is replaced by a high Conrail ratio) were, on average, somewhat less, but still well above 2 times. Weighted averages (using equity market values as weights) were only slightly less than simple averages.

[13] This expectation could be achieved by decreases in operating costs as well as price increases. *Value Line* (September 20, 1996) reports that operating margins (the complement of operating costs) for the railroad industry (at the company level, which include non-rail activities) have increased from 22.6 percent in 1992 to 26.1 percent in 1995 and are predicted to get to 30.1 percent in the 1999-2001 time frame.

[14] Deposition of Lawrence Yarberry, Chief Financial Officer for Southern Pacific, STB Finance Docket No. 32760.

operating revenues were only 46 percent of the total revenues of CSX for 1995. However, railroad activities accounted for 75 percent of CSX's assets and 79 percent of its total operating profits. Kansas City Southern Industries received a large fraction of its operating income from non-rail activities. But all the other Class I railroads were owned by companies that had virtually all (85 percent or more) of their assets and operating revenues associated with railroading activities. Thus, it appears that while non-railroading activities and assets could account for a portion of the observed differences between book and market values for companies that own Class I railroads, the very large differences between the observed ratios and unity cannot be explained on the basis of these non-rail activities.[15]

Second, there is the objective evidence from the railroad companies themselves. If investments in railroad activities are not expected to earn at least the cost of capital, then these firms should not be retaining the earnings they generate for their shareholders but rather pay those earnings out as dividends so that shareholders can reinvest them elsewhere to make an adequate return. In 1995, all of the Class I railroads, with the exception of Union Pacific, retained (plowed back) more than 60 percent of their earnings; Union Pacific retained only 43 percent. Overall, the industry average was 73 percent for 1995 and 67 percent for 1996. This evidence supports the contention that the managements and boards of directors of these companies believed that the investment opportunities within the industry were financially attractive.

Third, the very title of the measure suggests than if an inadequacy is found, it is associated with revenues. This may not be the case. While there are clearly large year-to-year changes in the operating ratio (ratio of operating expenses to revenues) in the industry, there are strong pressures to decrease the ratio over time. Some railroads have ratios near or below 70 percent (Illinois Central and Norfolk Southern), while others struggle to get below 100 percent (Soo Line and GTW). When coupled with increases in capital turnover (more efficient use of

[15] Non-rail activities and assets might pull the market-to-book ratios down. This would be the case if the non-rail activities were not very profitable. Such is likely the case at CSX: in 1995, the ratios of operating income to assets for rail and non-rail activities (barge, container shipping, and intermodal) were 8.7 and 6.9 percent, respectively.

capital), the result is an expectation of increasing returns to invested capital even without price increases:

$$\text{Return on Invested Capital} = \text{Income/Revenues} \times \text{Revenues/Capital}$$
$$= \text{Profit Margin} \times \text{Capital Turnover}$$

During 1995, the Class I railroads operated at an after-tax profit margin of about 8.9 percent (13.7 percent before-tax at a 35 percent tax rate) and a capital turnover rate of 0.73.[16] If the after-tax margins can be increased to, say, 11 percent and capital turnover improved to, say, 0.85, then the after-tax return on invested capital would increase from the 6.5 percent realized in 1995 to 9.35 percent. While these numbers are only illustrative, they do indicate how relatively small changes can produce dramatic effects, effects that could result in the industry being deemed more than revenue adequate without any increases in prices.[17] The most recent *Value Line* (December 20, 1996) states that "[t]he railroads have done a good job of lowering their fixed costs over the past five years, and we think this trend will continue."

Fourth, there is a clear divergence between the notion that eight of the eleven Class I railroads were revenue inadequate in 1995 and the ability of these firms to raise cash and the willingness of others to pay substantially more than book value for acquisitions. It is generally believed that if the regulated entity does not have a fair opportunity to earn its cost of capital, then it will not be able to attract new capital or will be able to do so only at the expense of existing capital suppliers. But the railroads are active issuers of debt to finance equipment purchases, system improvements and acquisitions. Those which have debt rated by Moody's carry investment grades (with the exception of SPRR's senior note, rated Ba1) and their transportation trust certificates are often highly rated. Several railroads have either sold stock outright or used stock as currency in acquisitions over the past several years.[18] Value Line rates

[16] The AAR 1995 report indicates a before-tax profit margin of 13.58 percent for all Class I railroads.

[17] The degree to which investors expect improvements can, perhaps, best be seen in the "synergies" predicted in recent acquisitions. For example, UP's acquisition price for the stock of SP was based on synergies in excess of $750 million per year pre-tax. See *The Wall Street Journal*, December 1, 1995, page B10. The joint railroad revenues of Southern Pacific and Union Pacific in 1995 were $9.54 billion, so that the synergies would increase the after-tax (at 35 percent) margin of the combined companies by 5.1 percent.

[18] Even Southern Pacific, thought to be among the most financially weak of the Class I railroads, was able to sell stock substantially in excess of its book value in 1993 and 1994.

the financial strength of the seven Class I railroads it follows from moderate (B for KCS) to strong (A+ for NS). Standard & Poor's November 30, 1995 *Industry Survey* stated that "[a]lthough the industry if failing to earn its cost of capital as defined by the ICC, it is in fact a picture of health."

UP paid $35 per share for CNW, which had a book value the year before the acquisition of $7; BN paid $20 per share for ATSF, which had a book value of $6.67 per share the year before its acquisition; UP paid $25 per share for SP, which had a book value of $6.80 per share the year before its acquisition; and the bidding war for Conrail has pushed its price to $110 per share, which had a book value of about $32.83 share at the end of 1995.

Fifth, even if all the defects discussed above were corrected, the method of measuring revenue adequacy chosen by the Board is flawed. That is, the Board's measure could signal inadequacy in a given year while, at that time, the current revenues are entirely adequate in terms of providing a reasonable return on invested capital when judged in the proper context.

The best way to illustrate this point is to compare two alternative cost-of-service methodologies, both fully compensatory (i.e., although their price patterns are different over time, both sets of prices allow investors full recovery of their investment and a reasonable return thereon): depreciated original cost and trended original cost. Under the Depreciated Original Cost ("DOC") methodology, the rate base is the depreciated original cost of the net assets (assets at cost less accumulated depreciation) less accumulated deferred income taxes (consistent with Schedule 250) and the return on the equity-financed portion of the rate base is set in nominal terms (such as the 13.4 percent used by the STB). As accumulated depreciation increases over time and the rate base declines, the cost-based price of the service declines, other cost-of-service components held constant. Under the Trended Original Cost ("TOC") methodology, only the real portion of the return on equity is reflected in current rates; the inflation component of the return on equity is deferred until a later date. Hence the TOC rate base is greater than the DOC rate base by the accumulated deferred return balance.[19] The TOC

[19] See "Inflation and Rate of Return Regulation," Stewart C. Myers, A. Lawrence Kolbe, and William B. Tye, *Research in Transportation Economics*, Vol.2, pp. 83-119, 1985. The Federal Energy Regulatory Commission uses the Trended Original Cost methodology in its regulation of oil pipelines.

methodology produces pricing that start at a lower level than those under the DOC methodology, and these cost-based prices drift upward over time rather than downward, as they would under the DOC methodology. Hence, if a regulated entity were pricing its service using a TOC-based pricing scheme, in the early years of the life of the rate base (or, more generally, during the time when the firm is adding to its asset base), its revenues will appear "inadequate" when measured against those necessary under a DOC methodology.

The STB's methodology is effectively a DOC-based approach to cost of service. Yet, it is logical that the railroads should be using a TOC-based approach to pricing their services over time (so that prices tend to rise with inflation). Hence, it is entirely plausible that the test applied by the Board is yielding false-negative results: railroad revenues appear to be inadequate, but are factually adequate when judged according to the inter-temporal scheme under which they are being played out.

IV. CONCLUSIONS

The requirement that the STB shall annually determine the railroad revenue adequacy should be put to rest. The Board's measure of return on investment for each Class I railroad is fraught with short-comings and severely short-sighted; and the cost of capital estimate it uses as a benchmark against which to judge adequacy is severely flawed as well. Simple measures, such as market-to-book ratios, retention rates and debt ratings indicate that the railroads have a high degree of financial integrity and are expected to earn returns on the book value of equity well in excess of their cost of capital. They clearly have no difficulty in raising capital without causing any dilution for existing shareholders. Yet all but three of the eleven Class I railroads reviewed by the STB indicate revenue inadequacy. Given the fatal flaws in the STB's methodology and the potential misunderstandings that result from its publication, now is the time to remove the substantial burden on both the railroads and STB staff of making the filings and calculations necessary to produce this useless and potentially misleading statistical analysis.

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Professor Kahn is the Robert Julius Thorne Professor of Political Economy, Emeritus, at Cornell University and a Special Consultant to NERA.

He has been Chairman of the New York Public Service Commission; Chairman of the Civil Aeronautics Board; and Advisor to the President (Carter) on Inflation and Chairman of the Council on Wage and Price Stability.

Professor Kahn received his Bachelor's and Master's degrees from New York University and a Doctorate in Economics from Yale University. Following service in the Army, he served as Chairman of the Department of Economics at Ripon College, Wisconsin. He moved to the Department of Economics at Cornell University, where he remained until he took leave to assume the Chairmanship of the New York Public Service Commission. During his tenure at Cornell, Professor Kahn served as Chairman of the Department of Economics, member of the Board of Trustees of the University and Dean of the College of Arts and Sciences.

Throughout his career, Professor Kahn has served on a variety of public and private boards and commissions including: the Attorney General's National Committee to Study the Antitrust Laws; the senior staff of the President's Council of Economic Advisors; the Economic Advisory Council of American Telephone & Telegraph Company; the National Academy of Sciences Advisory Review Committee on Sulfur Dioxide Emissions; the Environmental Advisory Committee of the Federal Energy Administration; the Public Advisory Board of the Electric Power Research Institute; the Board of Directors of the New York State Energy Research and Development Authority; the Executive Committee of the National Association of Regulatory Utility Commissioners; the National Commission for Review of Antitrust Laws and Procedures; the New York State Council on Fiscal and Economic Priorities; the Governor of New York's Fact-Finding Panel on Long Island Lighting Company's Nuclear Power Plant at Shoreham, L.I.; the Governor of New York's Advisory Committee on Public Power for Long Island; the National Governing Board of Common Cause; and, in 1990, as Chairman of the International Institute for Applied Systems Analysis Advisory Committee on Price Reform and Competition in the USSR.

He has also served as a court-appointed expert in State of New York v. Kraft General Foods, Inc., et al., U.S. Disctrict Court, S.D.N.Y.; Advisor to New York Governor Carey on Telecommunications Policy; and as a consultant to the Attorneys General of New York, Pennsylvania and Illinois, the Ford Foundation, the National Commission on Food Marketing, Federal Trade Commission, Antitrust Division of the Department of Justice, the U.S. Department of Agriculture and the City of Denver on charging and financing of Stapleton Airport.

He has received L.L.D. honorary degrees from Colby College, Ripon College, Northwestern University, the University of Massachusetts and Colgate University, and an honorary D.H.L. from the State University of New York, Albany; he also received the Distinguished Transportation Research Award of the Transportation Board Forum, The Alumni Achievement Award of New York University, the award of the American Economic Association's Transportation and Public Utilities Group for Outstanding Contributions to Scholarship, The Henry Edward Salzberg Honorary Award from Syracuse University for Outstanding Achievement in the Field of Transportation, and the Burton Gordon Feldman Award for Distinguished Public Service from Brandeis University; and was elected to membership in the American Academy of Arts and Sciences and Vice President of the American Economic Association. He is a regular commentator on PBS's "The Nightly Business Report."

He has testified before many U.S. Senate and House Committees, the Federal Power Commission, the Federal Energy Regulatory Commission and numerous state regulatory bodies.

Professor Kahn's publications include *Great Britain in the World Economy; Fair Competition: The Law and Economics of Antitrust Policy* (co-authored); *Integration and Competition in the Petroleum Industry* (co-authored); and *The Economics of Regulation*. He has written numerous articles which have appeared in *The American Economic Review, The Quarterly Journal of Economics, The Journal of Political Economy, Harvard Law Review, Yale Journal on Regulation, Yale Law Journal, Fortune, The Antitrust Bulletin* and *The Economist*, among others.

EDUCATION:

YALE UNIVERSITY
Ph.D., Economics, 1942

UNIVERSITY OF MISSOURI
Graduate Study, 1937-1938

NEW YORK UNIVERSITY
M.A., Economics, 1937
A.B. (summa cum laude), Economics, 1936

EMPLOYMENT:

1961-1974 1980-	NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC. Special Consultant
	CORNELL UNIVERSITY
1947-1989	Assistant Professor; Associate Professor; Robert Julius Thorne Professor of Economics; Robert Julius Thorne Professor of Political Economy, Emeritus, 1989-; Chairman, Department of Economics; Dean, College of Arts and Sciences; on leave 1974-80.
	NEW YORK UNIVERSITY SCHOOL OF LAW
Spring 1989	Visiting Meyer Professor of Law
	UNITED STATES GOVERNMENT
1978-1980	Advisor on Inflation to President Carter
1978-1980	Chairman, Council on Wage and Price Stability
1977-1978	Chairman, Civil Aeronautics Board
1955-1957	Senior Staff, Council of Economic Advisors to the President
1943	U.S. Army, Private
1943	War Production Board
1942	Associate Economist, International Economics Unit, Bureau of Foreign and Domestic Commerce, Department of Commerce
1941-1942	Associate Economist, Antitrust Division, U.S. Department of Justice
	NEW YORK STATE PUBLIC SERVICE COMMISSION
1974-1977	Chairman
	BROOKINGS INSTITUTION
1940, 1950-1951	Staff Economist
	RIPON COLLEGE
1945-1947	Assistant Professor, Chairman, Department of Economics
	TWENTIETH CENTURY FUND

1944-1945	Research Economist
	COMMISSION ON PALESTINE SURVEYS
1943-1944	Economist
	UNIVERSITY OF MISSOURI
1937-1938	Teaching Assistant

CONSULTANCIES AND PROFESSIONAL ACTIVITIES:

1994-	American Airlines on code-sharing
1994-	Antitrust Division, U.S. Department of Justice, on the application of Ameritech for waivers of the interexchange restrictions in the AT&T Modified Final Judgment
1993-1994	Court-appointed expert in State of New York v. Kraft General Foods, Inc., et al., U.S. District Court, S.D.N.Y.
1992	New Zealand Telecom on the progress of competition in New Zealand telecommunications
1992	Rochester Telephone Company on corporate restructuring and deregulation
1992	Russian Government on economic reform
1991	British Mercury on terms of competition with British Telecom
1989	City of Denver on charging and financing of Stapleton Airport
1988-1990	Attorneys General, New York and Pennsylvania, on airline mergers
1985	Attorney General, State of Illinois, on Illinois Bell rates
1981-1984	City of Long Beach, California, the Coca-Cola Company and American Airlines on antitrust litigation
1981-	Economic commentary, Nightly Business Report (PBS)
1980-1982	Advisor to Governor Carey on Telecommunications Policy
1968	Ford Foundation
1966	National Commission on Food Marketing
1965,1974	Federal Trade Commission
1963-1964	Antitrust Division, Department of Justice
1960-1961	U.S. Department of Agriculture
1957-1961	Boni Watkins, Jason & Co.

See also the list of testimony below.

MEMBERSHIPS:

1992-	Member, New York State Telecommunications Exchange
1992-93	Member, Ohio Blue Ribbon Panel on Telecommunications Regulation
1991-	Board of Editors, *Review of Industrial Organization*
1990-92	Chairman, International Institute for Applied Systems Analysis Advisory Committee on Price Reform and Competition in the USSR
1986	Governor Cuomo's Advisory Panel on public power for Long Island

1983-89	Governor Cuomo's Fact-finding Panel on Long Island Lighting Company's Nuclear Power Plant at Shoreham, L.I.
1983-90	New York State Council on Fiscal and Economic Priorities
1982-	*The American Heritage Dictionary* Usage Panel
1982-1985	Governing Board, Common Cause
1980-1986	Director, New York Airlines
1978-1979	National Commission for the Review of Antitrust Laws and Procedures
1975-1977	Project Committee, Electric Utility Rate Design Study, Electric Power Research Institute
1974-1975	National Academy of Science Review Commission on Sulfer Oxide Emissions
1974-1977	Public Advisory Board, Electric Power Research Institute
1974-1977	Environmental Advisory Committee, Federal Energy Administration
1974-1977	Executive Committee, National Association of Regulatory Utility Commissioners, and Chairman, Committee on Electric Energy
1968-1974	Economic Advisory Board, American Telephone & Telegraph Corporation
1965-1967	Economic Advisory Committee, U.S. Chamber of Commerce
1967-1969	Chairman, Tompkins County Economic Opportunity Corporation
1964-1969	Board of Trustees, Cornell University
1961-1964	Board of Editors, *American Economic Review*
1953-1955	Attorney General's National Committee to Study the Antitrust Laws

HONORS AND AWARDS:

May 1995	Wilbur Cross Medal for outstanding achievement, Yale University
Mar 1989	Burton Gordon Feldman Award for Distinguished Public Service, Gordon Public Policy Center, Brandeis University
Feb 1989	Distinguished Service Award, Public Utility Research Center, University of Florida
Nov 1988	International Film and TV Festival of New York, Bronze Medal presented to The Nightly Business Report/WPBT2 for Editorial/Opinion Series written by Alfred E. Kahn
Apr 1986	Harry E. Salzberg 1986 Honorary Medallion for outstanding achievement in the field of transportation
Oct 1984	Distinguished Transporation Research Award of the Transportation Research Forum
1981-1982	Vice President, American Economic Association
1978	Richard T. Ely lecturer, American Economic Association, 1978
1978	Rejection Scroll, International Association of Professional Bureaucrats
May 1985	State University of New York (Albany), DHL (Hon.)
May 1983	Colgate University, LL.D. (Hon.)
June 1982	Northwestern University, LL.D. (Hon.)
May 1980	Ripon College, LL.D. (Hon.)
May 1979	University of Massachusetts, LL.D. (Hon.)
May 1978	Colby College, LL.D. (Hon.)
1977-	Fellow of the American Academy of Arts and Sciences
1976	Distinguished Alumni Award, New York University

1976	American Economic Association, Section on Public Utilities and Transportation, citation for distinguished contributions
1954-1955	Fulbright Fellowship, Italy
1935-	Phi Beta Kappa
1939-1940	Yale-Brookings Fellow

BOOKS:

The Economics of Regulation, 2 volumes, John Wiley, 1970 and 1971. Reprinted by The MIT Press, 1988, with a new "Introduction: A Postscript, Seventeen Years After," pp. xv-xxxvii.

Integration and Competition in the Petroleum Industry, (with Melvin G. DeChazeau), Petroleum Monograph Series, Volume 3 (Yale University Press, 1959). Reprinted in 1971.

Fair Competition: The Law and Economics of Antitrust Policy (with Joel B. Dirlam) (Cornell University Press, 1954). Reprinted by Greenwood Press, 1970.

Great Britain in the World Economy (Columbia University Press, 1946). Reprinted in 1968.

MAJOR ARTICLES:

"How to Treat the Costs of Shared Voice and Video Networks in a Post-regulatory Age," *Policy Analysis*, #264, November 27, 1996, Cato Institute.

"Competition and Stranded Cost Re-revisited," 36 *Natural Resources Journal* (1996) forthcoming.

"Deregulation of the Public Utilities—Transitional Problems and Solutions," *Economic Papers*, Economic Society of Australia, September 1995, pp. 1-17. (Published in *Réseaux* nos. 72-73 Juillet/Octobre 1995 by CNET as "Déréglementation des Services Publics: Problèmes transitoires et solutions.")

"The Challenge for Federal and State Regulators: Transition from Regulation to Efficient Competition in Electric Power," with William J. Baumol and Paul L. Joskow, Edison Electric Institute, December 9, 1994.

"Competition in the Electric Industry Is Inevitable and Desirable," *The Electric Industry in Transition*, Public Utility Reports, Inc. and New York State Energy Research and Development Authority, December 1994, Chapter 3, pp. 21-31.

"Can Regulation and Competition Coexist? Solutions to the Stranded Cost Problem and Other Conundra," *The Electricity Journal*, Volume 7, Number 8, October 1994, pp. 23-35.

"The Pricing of Inputs Sold to Competitors: A Comment," in *Yale Journal on Regulation*, Vol. 11, No. 1, Winter 1994, pp. 225-240.

"Airline Deregulation," in *The Fortune Encyclopedia of Economics*, David R. Henderson, Ph.D., ed., New York: Warner Books, 1993, pp. 379-384.

"Change, Challenge and Competition The Report of the National Commission to Ensure a Strong Competitive Airline Industry, August 1993," *Regulation*, No. 3, 1993.

"The Competitive Consequences of Hub Dominance: A Case Study," in *Review of Industrial Organization*, Vol. 8, 1993, pp. 381-405.

"Pricing of Telecommunications Services: A Comment," in *Review of Industrial Organization*, Vol. 8, 1993, pp. 39-41.

"The Purposes and Limitations of Economic Regulation; The Achievements and Problems of Deregulation" and "Reflections and Conclusions on British and U.S. Experience: The Future of Regulation," in *Incentive Regulation: Reviewing RPI-X & Promoting Competition, Proceedings 2*, Based on papers presented at two CRI seminars in London on 4 June and 15 July 1992, CRI (Centre for the Study of Regulated Industries), October 1992, pp. 1-17 and 93-104.

"Market Power Issues in Deregulated Industries," in *Antitrust Law Journal*, Vol. 60, Issue 3, American Bar Association, 1992, pp. 857-866.

"Regolamentazione e concorrenza nelle imprese de pubblica utilità: un <<inquadramento teorico>>," *L'INDUSTRIA* / n.s., a. XIII, n. 2, aprile-guigno 1992, pp. 147-166.

"Least cost planning generally and DSM in particular," in *Resources and Energy* 14 (1992), Elsevier Science Publishers, North-Holland, pp. 177-185.

"Price Deregulation, Corporatization and Competition" (with M.J. Peck), in *What is to be Done? Proposals for the Soviet Transition to the Market*, M.J. Peck and T.J. Richardson, eds., New Haven: Yale University Press, 1991.

"Thinking About Predation--A Personal Diary," in *Review of Industrial Organization*, Vol. 6, The Netherlands: Kluwer Academic Publishers, 1991, pp. 137-146.

"An Economically Rational Approach to Least-Cost Planning For Electric Power," *The Electricity Journal*, Vol. 4, Number 5, June 1991, pp. 11-20.

"The Changing Focus of Electric Utility Regulation," *Research in Law and Economics*, Richard O. Zerbe, Jr., Victor P. Goldberg, eds., Vol. 13, JAI Press, Inc., Spring 1991, pp. 221-231.

"The Soviet Economic Crisis: Steps to Avert Collapse" (co-author), Executive Report 19, International Institute for Applied Systems Analysis, Laxenburg, Austria, February 1991.

"Telecommunications, Competitiveness and Economic Development--What Makes Us Competitive?", *Public Utilities Fortnightly*, Vol. 126, No. 6, September 13, 1990, pp. 12-19.

"Deregulation: Looking Backward and Looking Forward," *Yale Journal on Regulation*, Vol. 7, Spring 1990, pp. 325-354.

"Do We Need to Curb the Investments Foreigners are Making in the United States?" in *The Impact of Foreign Investment in the United States*, Touche Ross & Co., June 1989.

"Innovative Pricing of Electricity," in *New Dimensions in Pricing Electricity: Proceedings*, Palo Alto, CA: Electric Power Research Institute, April 1989.

"Competition: Past, Present and Future, Perception vs. Reality," in *Proceedings: 1988 Utility Strategic Issues Forum Planning in a Competitive Environment*, Palo Alto, CA: Electric Power Research Institute, March 1988.

"Thinking About The Record of Deregulation," in The Donald S. MacNaughton Symposium Proceedings 1987, *Economic Deregulation: Promise and Performance*, Syracuse, NY: Syracuse University, 1988, pp. 21-35.

"In Defense of Deregulation," in *Cleared For Takeoff: Airline Labor Relations Since Deregulation*, Jean T. McKelvey, Editor, Ithaca, NY: Cornell University ILR Press, 1988, pp. 343-347."

"I Would Do It Again," *Regulation*, 1988 Number 2, pp. 22-28.

"Airline Deregulation," *The Senior Economist*, Joint Council on Economic Education, Spring 1988.

"Airline Deregulation - A Mixed Bag, But a Clear Success Nevertheless," *Transporation Law Journal*, Volume 16, No. 2, Spring 1988, pp. 229-251.

"Surprises of Airline Deregulation," *The American Economic Review, Papers and Proceedings*, Volume 78, No. 2, May 1988, pp. 316-322.

"Thoughts on the Past, Present, and Future of Telecommunications Regulation," talk presented to the Current Issues in Telephone Regulation conference at the University of Texas, Austin, October 5, 1987, reprinted in *Telecommunications Deregulation: Market Power and Cost Allocation Issues*, John R. Allison and Dennis L. Thomas, eds., Westport, CT: Quorum Books, 1990, pp. 259-268.

"The Future of Local Telephone Service: Technology and Public Policy," Fishman Davidson Center for the Study of the Service Sector, The Wharton School of the University of Pennsylvania, Discussion Paper #22, June 1987. Reprinted in *Toward The Year 2000*, ITT Key Issues Lecture Series, 1986, (New York: ITT Corp. 1987), pp. 86-99.

"Current Issues in Telecommunications Regulation: Pricing" (with William B. Shew), *Yale Journal on Regulation*, Vol. 4: 191-256, Spring 1987.

"Deregulatory Schizophrenia," *California Law Review*, Volume 75, Number 3, May 1987, pp. 1059-1068.

"A Critique of Proposed Changes," *The Future of Electrical Energy: A Regional Perspective of an Industry in Transition*, Sidney Saltzman and Richard E. Schuler (eds.), Praeger Publishers, New York, 1986, pp. 340-347.

"The Tyranny of Small Decisions and the Perils of Big Ones," in *Allocation, Ethics, and Innovation in Research and Public Policy*, National Symposium on Science and Technology, Cornell University, Washington, D.C., May, 20, 1986.

"The Theory and Application of Regulation," *Antitrust Law Journal*, Spring Meeting Issue, 1986, Volume 55, Issue 1, pp. 177-184, from ABA Antitrust Section Annual Meeting.

"Transportation Deregulation...And All That," Honorary Salzberg Memorial Lecture, Syracuse University School of Management, Syracuse, New York, April 1986. Reprinted, revised, in *Economic Development Quarterly*, May 1987, Volume 1, Number 2, pp. 91-99.

"Frontier Issues in Telecommunications Regulation," Mountain Bell Academic Seminar, Lakewood, Colorado, August 1985.

"Telecommunications Regulation: A Case Study of the Impact of a Technology on Social Institutions," for presentation at Cornell University Electrical Engineering Centennial Symposium, Ithaca, New York, June 12, 1985.

"Public Policies for Our Telecommunications Future," in *Funding the Future of Telecommunications*, a conference sponsored by Rensselaer Polytechnic Institute, supported by the NYNEX Telephone Companies, Saratoga Springs, New York, June 3-5, 1985.

"Industrial Policy and Deregulation," *Federal Bar News & Journal*, Washington, D.C., January 1985.

First Distinguished Lecture on Economics in Government, "The Macroeconomic Consequences of Sensible Microeconomic Policies," Dallas, December 28, 1984. American Economic Association meetings.

"The Regulatory Agenda," and "Concluding Comments: The Future of Access," in Alan Baughcum and Gerald R. Faulhaber, *Telecommunications Access & Public Policy*, Ablex Publishing Corporation, Norwood, New Jersey, 1984, pp. 205-210 and pp. 245-253.

"The Uneasy Marriage of Regulation and Competition," *Telematics*, Washington, D.C., September 1984.

"The Next Steps in Telecommunications Regulation and Research," *Public Utilities Fortnightly*, Arlington, VA., July 19, 1984.

"The Road to More Intelligent Telephone Pricing," *Yale Journal on Regulation*, Volume 1, Number 2, 1984, pp. 139-157.

"Telephone Deregulation: Two Views: A Needed Dose of Competition," *Challenge*, March/April 1984, pp. 24-29.

"Economic Policies For The 80s," Oppenstein Brothers Foundation Lecture, Rockhurst College and the University of Missouri, Kansas City, April 19, 1983.

"The Relevance of Industrial Organization," *Industrial Organization, Antitrust, and Public Policy*, John V. Craven, ed., Kluwer-Nihjoff, 1983.

"Some Thoughts on Telephone Access Pricing," National Economic Research Associates, April 1983.

"Deregulation: Its Meaning and Implications for Antitrust Enforcement," New York State Bar Association, 1983 *Antitrust Law Symposium*, pp. 2-14.

"The Passing of the Public Utility Concept: A Reprise," in *Telecommunications Today and Tomorrow*, Eli Noam (ed.) Harcourt Brace Jovanovich, 1983.

"Deregulation and Vested Interests: The Case of Airlines," *The Political Economy of Deregulation*, Roger G. Noll and Bruce M. Owen, eds., American Enterprise Institute Studies in Government Regulation, 1983.

"An Alternative to Reaganomics," *Increasing Understanding of Public Problems and Policies*, 1982, Farm Foundation, January 1983.

"Utility Diversification," *The Energy Journal*, Volume 4, No. 1, January 1983, pp. 149-160.

"The Airline Industry: Is It Time to Reregulate?" *Second Annual William A. Patterson Transportation Lecture*, The Transportation Center, Northwestern University. Published jointly with National Economic Research Associates, 1982. Reprinted in *The World Economy*, December 1982, London: Basil Blackwell, pp. 341-360.

"On Changing the Consumer Price Index, A Comment," *Journal of Policy Analysis and Management*, Vol. 1 (Summer 1982), pp. 512-15.

"The Political Feasibility of Regulatory Reform: How Did We Do It?" *Reforming Social Regulation: Alternative Public Policy Strategies*, Leroy Graymer and Frederick Thompson (eds.), Sage Publications, 1982.

"The Reform of Government Regulation: Recent Progress in the United States," University of Leuven Press, Leuven, Belgium, 1981.

"The New Merger Wave," *N/E/R/A Topics*, National Economic Research Associates, December 1981.

"Liberals Must Face Facts," *Challenge*, Nov/Dec. 1981, pp. 25-32.

"Is Inflation Abating?" *N/E/R/A Topics*, National Economic Research Associates, November 1981.

"Utility Regulation Revisited," National Economic Research Associates: New York, 1981, republished in *Current Issues in Public Utility Economics: Essays in Honor of James C. Bonbright*, Albert L. Danielsen and David R. Kamerschen (eds.), Lexington, MA., D.C. Heath and Company, 1983.

"Must We Live With Inflation Through the 1980s?" *Major Issues of the 1980s Lecture Series*. Sponsored jointly by the Lowell Institute of Boston and Harvard University Extension, April 1981.

"Ethical Values in a Market System," *Across the Board*, The Conference Board, April 1981, pp. 57-63.

"Can Liberalism Survive Inflation?" *The Economist*, March 7, 1981, pp. 21-25.

"Health Care Economics: Paths to Structural Reform," in Mancur Olson (ed.), *A New Approach to the Economics of Health Care*, Washington, American Enterprise Institute, 1981.

"Regulation and the Imagination," *Proceedings of a Regulatory Council Conference*, United States Regulatory Council, July 22, 1980, pp. 1-9.

"Health Care and Inflation: Social Compassion and Efficient Choice," *National Journal*, August 2, 1980, pp. 1294-97.

"A Paean to Legal Creativity" (with Michael Roach), *Administrative Law Review*, Washington, D.C., Winter 1979, Volume 31, No. 1, pp. 97-114.

"Applications of Economics to an Imperfect World," *Regulation*, Washington, D.C., November/December 1978, Volume 2, No. 6, pp. 17-27; The Richard T. Ely lecture, *The American Economic Review, Papers and Proceedings*, Volume 69, No. 2, May 1979, pp. 1-13.

"The Changing Environment of International Air Commerce," *Air Law*, (Netherlands Journal), Volume 3, No. 3, 1978.

"Deregulation of Air Transportation--Getting from Here to There," *Regulating Business: The Search for an Optimum*, Institute for Contemporary Studies, San Francisco, California, 1978, pp. 37-63.

"Load Control, Resource Conservation and King Charles' Head," Iowa State University Regulating Conference, *Proceedings*, May 19, 1977, pp. 68-74.

"Recent Developments in Cost Analysis and Rate Design," *Proceedings of the Third Annual Symposium on Problems of Regulated Industries*, Kansas City, Missouri, February 14, 1977, pp. 15-28.

"An Economist at Work on Utility Rate Regulation," a series of three articles. *Public Utilities Fortnightly*, Washington, D.C., January 5, 19, and February 2, 1978.

"New Rate Structures in Communications" (with Charles A. Zielinski), *Public Utilities Fortnightly*, March 25, 1976, pp. 19-24 and April 8, 1976, pp. 20-23.

"Efficient Rate Design: The Transition from Theory to Practice," *Proceedings of the Symposium on Rate Design Problems of Regulated Industries*, February 23-26, 1975, Kansas City, Missouri, pp. 34-51.

"Between Theory and Practice: Reflections of a Neophyte Public Utility Regulator," *Public Utilities Fortnightly*, January 2, 1975, pp. 3-7.

"Economic Theory as a Guideline for Government Intervention and Control: Comment," *Journal of Economic Issues*, Vol. VIII, No. 2, June 1974.

"Market Power Inflation: A Conceptual Framework," in *The Roots of Inflation*, Burt Franklin and Co., 1975.

"The Economics of the Electricity-Environmental Issue: A Primer," P.I.P. National Environmental Press Seminar, Minneapolis, Minnesota, May 31-June 1, 1972.

"Evaluation of Economic Regulation: Discussion," *Ibid*, LXI (May 1971) 235-237.

"National Communications Policy: Discussion," *The American Economic Review, Papers and Proceedings*, Volume 60, May 1970, pp. 219-20.

"Dual Pricing in Southern Louisiana: A Reply," *Land Economics*, XLVI (August 1970): 338-42.

"The Combined Effects of Prorationing, the Depletion Allowance and Import Quotas on the Cost of Producing Crude Oil in the United States," U.S. Senate, Committee on the Judiciary, Subcommittee on Antitrust and Monopoly, 91st Congress, 1st Session, *Government Intervention in the Market Mechanism, Hearings, The Petroleum Industry*, Part I, Washington, 1969, Reproduced in *Natural Resources Journal* (January 1970) X:53-61.

"Incentives to Superior Performance: Pricing," Harry Trebing (ed.), *Performance Under Regulation*, Michigan State University Press, 1968.

"The Graduated Fair Return," *The American Economic Review*, March 1968.

"Cartels and Trade Associations," *Encyclopedia of the Social Sciences*, 1968.

"The Merits of Reserving the Cost-Savings From Domestic Communications Satellites for Support of Educational Television" (with Joel B. Dirlam), *Yale Law Journal*, Volume 77, No. 3, January 1968, pp. 494-520.

"Tyranny of Small Decisions: Market Failures, Imperfections, and the Limits of Economics," *Kyklos*, Volume 19, 1966.

"Mergers in the Petroleum Industry and Problems of the Independent Refiner," U.S. Senate Judiciary Committee, *Economic Concentration*, Part II, Washington, 1965, pp. 562-609.

"The Depletion Allowance in the Context of Cartelization," *The American Economic Review*, Volume 54, 1964, pp. 286-314.

"Efficiency in the Use of Natural Resources: Discussion," *The American Economic Review, Papers and Proceedings*, Volume 54, May 1964, pp. 221-226.

"Market Power and Economic Growth: Guides to Public Policy," *Antitrust Bulletin*, Volume 8, May-June 1962, p. 531.

"Agricultural Aid and Economic Development: The Case of Israel," *The Quarterly Journal of Economics*, Volume 76, November 1962, pp. 568-591.

"The Role of Patents," in J.P. Miller, ed., *Competition, Cartels and Their Regulation* (North Holland Publishing Company, Amsterdam), Chapter 8, pp. 308-346.

"The Chemical Industry," Walter Adams (ed.) *The Structure of the American Industry*, First, Second and Third Editions, New York, MacMillan, 1948, 1954 and 1961.

"Economic Issues in Regulating the Field Price of Natural Gas," *The American Economic Review, Papers and Proceedings*, Volume 50, May 1960, pp. 506-517.

"Pricing Objectives in Large Companies: Comment," *The American Economic Review*, Volume 49, September 1959, pp. 670-678.

"Selected Papers: A.E.A. Competition: Discussion," *The American Economic Review, Papers and Proceedings*, Volume 48, May 1958, pp. 600-602.

"Economic and Legal Approaches to Antitrust: An Attempt to Clarify the Issues," *Antitrust Bulletin*, Volume 2, January 1957, pp. 267-279.

"Report on Antitrust Policy: Discussion," *The American Economic Review, Papers and Proceedings*, Volume 46, May 1956, pp. 496-507.

"My Antitrust Philosophy: Evidence of Schizophrenia or Shattering Transformation?" *Antitrust Bulletin*, Volume 1, November 1955, p. 355.

"Regulation of Crude Oil Production in the United States and Lessons for Italy," *Banca Nazionale Del Lavoro Monthly Review*, Volume 8, June 1955, pp. 67-79.

"A Rejoinder" (with Joel B. Dirlam), *Indiana Law Journal*, Volume 29, Spring 1954, pp. 371-375.

"Legal and Economic Appraisal of the 'New' Sherman and Clayton Acts," *Yale Law Journal*, Volume 63, January 1954, pp. 293-347.

"Standards for Antitrust Policy," *Harvard Law Review*, Volume 67, November 1953, pp. 28-54. Also reprinted in Homewood-Irwin, *Readings in Industrial Organization and Public Policy* (American Economic Association, 1958), pp. 352-375.

"A Reply" (with Joel B. Dirlam), *Journal of Political Economy*, Volume 61, October 1953, pp. 441-446.

"The Integration and Dissolution of the A & P Company" (with Joel B. Dirlam), *Indiana Law Journal*, Volume 29, Fall 1953, pp. 1-27.

"Big Business in a Competitive Society" (with A.D.H. Kaplan), *Fortune*, Volume 47, Supp., February 1953.

"Leadership and Conflict in the Pricing of Gasoline" (with Joel B. Dirlam), *Yale Law Journal*, Volume 61, June-July 1952, pp. 818-855.

"Price Discrimination in Law and Economics" (with Joel B. Dirlam), *The American Journal of Economics and Sociology (Essays in Honor of Harry Gunnison Brown)*, Volume 11, April 1952, pp. 281-313.

"Antitrust Law and the Big Buyer: Another Look at the A & P Case" (with Joel B. Dirlam), *Journal of Political Economy*, Volume 60, April 1952, pp. 118-132.

"Investment Criteria in Development Programs," *The Quarterly Journal of Economics*, Volume 65, February 1951, pp. 38-61.

"The Burden of Import Duties, A Comment," *The American Economic Review*, Volume 38, December 1948, pp. 857-867.

"Patent Policy: Discussion," *The American Economic Review, Papers and Proceedings*, Volume 38, May 1948, pp. 245-260.

"The British Balance of Payments, and Problems of Domestic Policy," *The Quarterly Journal of Economics*, Volume 61, May 1947, pp. 368-396.

"Palestine: A Problem in Economic Evaluation," *The American Economic Review*, Volume 34, September 1944, pp. 538-560.

"Fundamental Deficiencies of American Patent Law," *The American Economic Review*, Volume 30, September 1940, pp. 475-491.

U.S. CONGRESSIONAL TESTIMONY:

Aviation Subcommittee of the House Committee on Public Works and Transportation on international aviation policy, May 9, 1991.

Subcommittee on Aviation of the Senate Committee on Commerce, Science and Transportation on airline concentration at hub airports, September 22, 1988.

Subcommittee on Aviation of the Senate Committee on Commerce, Science and Transportation on airline safety and re-regulation, November 4, 1987.

Subcommittee on Telecommunications and Finance, House Committee on Energy and Commerce, on competition and deregulation of the telecommunications industry, July 15, 1987.

Subcommittee on Antitrust and Monopoly of the Senate Committee on the Judiciary, on competitive issues in the airline industry, March 25, 1987.

Subcommittee on Monopolies and Commercial Law, Committee on the Judiciary, U.S. House of Representatives, on the Administration's proposed amendments to Section 7 of the Clayton Act, February 26, 1986.

Subcommittee on Aviation of the Senate Committee on Commerce, Science and Transportation on Computerized Reservation Systems, March 19, 1985.

Joint Economic Committee, United States Senate, Hearing on the Economic Issues of a Changing Telecommunications Industry, October 3, 1983.

House Subcommittee on Aviation on "Competitive Problems Raised by Computerized Reservation Systems," June 22, 1983.

House Committee on the Judiciary, on H.R. 1878, "The Shipping Act of 1983," May 19, 1983.

House Committee on Public Works and Transportation on "Coal Slurry Pipelines," April 13, 1983.

House Committee on the Judiciary, on H.J. Res. 350, A Plan to Balance the Federal Budget, August 4, 1982.

Senate Committee on the Judiciary, on S. 1215, the Malt Beverage Competition Act, June 21, 1982.

Subcommittee on Investigations and Oversight, House Committee on Public Works and Transportation, "Development, Operation and Implementation of the United States International Aviation Policy," December 9, 1981.

Joint Economic Committee, U.S. Congress on "Trucking Regulation," November 17, 1981.
Subcommittee on Monopolies and Commercial Law, House Committee on the Judiciary, "Mergers," August 26, 1981.

Senate Committee on Commerce, Science and Transportation, on S. 898, "The Telecommunications Act of 1981," June 11, 1981.

Subcommittee on Telecommunications, Consumer Protection, and Finance, House Committee on Energy and Commerce, "Telecommunications Regulation," May 20, 1981.

Subcommittee on Health, Senate Committee on Finance, on "The Health Incentives Reform Act," March 19, 1980.

House Budget Committee Inflation Task Force, on the "Treatment of Housing Costs in the Consumer Price Index," January 24, 1980.

Senate Committee on Banking, Housing, and Urban Affairs, on "The Chrysler Loan Guarantee Act," November 15, 1979.

Subcommittee on Surface Transportation, House Committee on Public Works and Transportation, on "Trucking Deregulation," October 4, 1979.

Senate Committee on Commerce, Science, and Transportation, on "Trucking Deregulation," June 26, 1979.

Subcommittee on the Legislative Process, House Rules Committee, on "Sunset Legislation," May 23, 1979.

Testimony on food prices and inflation, before:

a) House Subcommittee on Domestic Marketing, Consumer Relations and Nutrition; and Subcommittee on Department Investigations, Oversight and Research, Committee on Agriculture, April 4, 1979.

b) Subcommittee on Antitrust and Monopoly, Senate Committee on the Judiciary, April 6, 1979.

Testimony on hospital cost containment legislation, before:

a) Subcommittee on Health and the Environment, House Interstate and Foreign Commerce Committee; and Subcommittee on Health, House Ways and Means Committee, March 12, 1979.

b) Health Subcommittee, Senate Finance Committee, March 13, 1979.

Subcommittee on Environmental Pollution, Senate Committee on Environment and Public Works, on "Environmental Regulation and Inflation," February 27, 1979.

Testimony on authorization and appropriations for the Council on Wage and Price Stability, before:

a) Subcommittee on Economic Stabilization, House Committee on Banking, Finance and Urban Affairs, February 6, 1979.

b) Senate Subcommittee on Commerce, Consumer and Monetary Affairs, February 7, 1979.

c) Senate Committee on Banking, Housing and Urban Affairs, February 9, 1979.

d) Subcommittee on Treasury, Postal Service, and General Government, House Committee on Appropriations, May 24, 1979.

e) House Appropriations Committee, February 6, 1980.

f) Senate Committee on Banking, Housing, and Urban Affairs, March 17, 1980.

g) Subcommittee on Treasury, Postal Service, and General Government, House Committee on Appropriations, March 31, 1980.

h) Senate Committee on Banking, Housing and Urban Affairs, April 21, 1980.

i) Subcommittee on Treasury, Postal Service, and General Government, Senate Committee on Appropriations, April 23, 1980.

j) Subcommittee on Economic Stabilization, House Banking Committee, May 6, 1980.

House Committee on Ways and Means, on "Real Wage Insurance," January 30, 1979.

Testimony on the President's anti-inflation program, before:

a) Subcommittee on Economic Stabilization, House Committee on Banking, Currency, and Housing. November 22, 1978.

b) Subcommittee on Economic Growth and Stabilization, Joint Economic Committee, December 6, 1978.

c) House Committee on the Budget, January 30, 1979.

d) Subcommittee on Treasury, Postal Services, and General Government, House Committee on Appropriations, February 14, 1979.

e) Senate Budget Committee, March 7, 1979.

f) Subcommittee on Commerce, Consumer and Monetary Affairs, House Committee on Government Operations, June 28, 1979.

g) Economic Stabilization Subcommittee, House Committee on Banking, Finance and Urban Affairs, October 10, 1979.

h) Economic Stabilization Subcommittee, Senate Committee on Banking, Housing and Urban Affairs, October 11, 1979.

Subcommittee on Aviation, Senate Commerce, Science, and Transportation Committee, on S. 3363, "The International Air Transportation Competition Act of 1978," August 23, 1978.

National Commission for the Review of Antitrust Laws and Procedures, on "Economic Regulation and Antitrust Exemptions and Immunities," July 26, 1978.

Senate Commerce Committee, on S. 3064, "Airline Noise Legislation," June 14, 1978.

Testimony on CAB appropriations, before:

a) House Subcommittee on Appropriations, February 28, 1978.

b) Senate Subcommittee on Appropriations, March 2, 1978.

Testimony on United States international aviation negotiations, before:

a) Subcommittee on Aviation, House Committee on Public Works and Transportation, September 29, 1977

b) Aviation Subcommittee, House Public Works and Transportation Committee, on H.R. 11145, March 6, 1978.

House Budget Committee Task Force on Tax Expenditures, Government Organization, and Regulation, on "Airline Regulation," July 14, 1977.

Senate Antitrust and Monopoly Subcommittee, Oversight Hearings on Antitrust Enforcement, on "Enforcement of the Antitrust Laws," May 4, 1977.

Subcommittee on Investigations and Review, House Committee on Public Works and Transportation, on "The Effects of the Clean Water Act on the Electric Utility Industry," April 19, 1977.

Subcommittee on Communications, Senate Committee on Commerce, on "The Communications Act of 1934 Revisited," March 21, 1977.

Subcommittee on Communications, House Committee on Interstate and Foreign Commerce, on "The Consumer Communications Reform Act of 1976," H.R. 12323, September 30, 1976.

Subcommittee on Energy and Power, House Committee on Interstate and Foreign Commerce, on H.R. 12461, the Dingell-Moss Bill, to Prescribe Certain Rules for Federal, State and Local Agencies Regulating Electric Rates, April 7, 1976.

House Subcommittee on Communications, on "Domestic Common Carrier Regulation," November 18, 1975.

Senate Committee on Finance, on H.R. 6860, "The Energy Conservation and Conversion Act of 1975," July 18, 1975.

Subcommittee on Administrative Practice and Procedure, Senate Judiciary Committee, on "Regulation of the Airlines Industry," February 6, 1975.

Senate Committee on Interior and Insular Affairs, on "Financial Problems of the Electric Utility Industry," August 8, 1974.

Joint Economic Committee, U.S. Congress on "Market Power in Relation to Economic Growth," August 1962.

Senate Subcommittee on Patents, on natural rubber cartels, May 23, 1942.

TESTIMONY BEFORE THE FEDERAL POWER COMMISSION, 1958-62

In the matters of:

Area Rate Proceeding (Southern Louisiana Area), Docket Nos. AR61-2, et al.

Area Rate Proceeding (Permian Basin Area), Docket Nos. AR61-1, et al.

Omnibus, Docket Nos. G-9277, et al.

Atlantic Refining Company (Catco), Docket Nos. G-11024, et al.

Sohio Petroleum Company, et al., Docket Nos. G-8488, et al.

Gulf Oil Corporation, Docket Nos. G-9520, et al.

Amerada Petroleum Corporation, et al., Docket Nos. G-9385, et al.

Union Producing Company, Docket Nos. G-18354, et al.

Phillips Petroleum Company, Docket Nos. G-1148, et al.

Tidewater Oil Company, Docket Nos. G-13310, et al.

MISCELLANEOUS TESTIMONY:

"Statement of Alfred E. Kahn on FCC's Proposed Reforms of Carrier Access Charges" (re proposed Order in CC Docket No. 96-488), on behalf of the United States Telephone Association, February 14, 1997.

Verified Statement Before the Surface Transportation Board on behalf of the National Industrial Transportation League and the Western Coal Traffic League commenting on the joint statement submitted by the Association of American Railroads, Docket No. 41626, Docket No. 41242, Docket No. 41295, November 27, 1996.

"Joint Marketing, Personnel Separation and Efficient Competition Under the Telecommunications Act of 1996" (with Timothy J. Tardiff), a statement on behalf of U S West commenting on the FCC's NPRM of July 17th, in CC Docket No. 96-149, October 11, 1996.

"Economic Competition in Local Exchange Markets" (with Kenneth Gordon and William E. Taylor), on behalf of Bell Atlantic Company, commenting on a statement by seven economists on the pricing of essential network elements submitted by AT&T in state arbitration proceedings, August 9, 1996.

Declaration Before the Federal Communications Commission In the Matter of Allocation of Costs Associated with Local Exchange Carrier Provision of Video Programming Services, CC Docket No. 96-112, July 19, 1996.

Testimony before the Kansas Corporation Commission commenting on the continuing regulation and deregulation of the telecommunications industry in Kansas with reference to Competition docket HB 2728, on behalf of Southwestern Bell Telephone Company, Docket No. 190,492-U, June 14, 1996.

Declaration before the Federal Communications Commission In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, on behalf of Bell Atlantic (with Timothy J. Tardiff), CC Docket No. 96-98, May 30, 1996.

Testimony before the Public Service Commission of Maryland In Support of the Petition of Bell Atlantic - Maryland, Inc. for Adoption of a Price Cap Form of Alternative Regulation, on behalf of Bell Atlantic - Maryland, February 15, 1996; Rebuttal March 14, 1996; Surrebuttal April 1, 1996.

Testimony before the Public Service Commission of Pennsylvania regarding the Formal Investigation to Examine and Establish Updated Universal Service Principles and Policies for Telecommunications Services, Docket No. I-940035, on behalf of Bell Atlantic - Pennsylvania, Inc., December 7, 1995; Rebuttal, February 14, 1996.

Affidavit before the Public Service Commission of Maryland In the Matter of the Petition of Bell Atlantic-Maryland, Inc. for Adoption of an Alternative Form of Regulation pursuant to Amended Public Service Commission Law, Article 78, Section 69(E), on behalf of Bell Atlantic-Maryland, December 21, 1995.

Rebuttal Testimony before the State of Connecticut Department of Public Utility Control, discussing network unbundling, universal service and apportioning loop costs between telephone and video services, on behalf of the Southern New England Telephone Company, Docket No. 95-06-17, September 20, 1995.

Affidavit In the United States District Court for the Eastern District of Virginia (Alexandria Division) in the matter of United States Telephone Association, et al v. Federal Communications Commission, Civil Action No. 95-533-A, on behalf of USTA (with William E. Taylor), October 24, 1995.

"Preserving Universality of Subscription to Telephone Service in an Increasingly Competitive Industry" (with Timothy J. Tardiff), before the Public Utilities Commission of the State of California, on behalf of Pacific Bell, September 1, 1995.

Rebuttal Testimony before the Commonwealth of Massachusetts Department of Public Utilities, Docket 94-185, discussing network unbundling and universality of service, on behalf of NYNEX, August 23, 1995.

"Alternative Regulation for Connecticut Telecommunications Services," before the Connecticut Department of Public Utility Control, discussing the economic principles that should guide the introduction of an alternative form of regulation for noncompetitive telecommunications services, on behalf of the Southern New England Telephone Company, Docket No. 95-03-01, June 15, 1995.

Rebuttal Testimony before the New Jersey Board of Regulatory Commissioners, in the matter of the Investigation Regarding IntraLATA Toll Service Competition on a Presubscription Basis, Docket No. TX94090388, on behalf of Bell Atlantic - New Jersey, Inc., May 31, 1995.

Testimony before the Connecticut Department of Public Utility Control on strandable investments, on behalf of United Illuminating, Docket 94-12-13, April 1995.

"Rebuttal Evidence on Rate-base Splitting, Price Caps and the Treatment of Economies of Scope in Telecommunications Regulation," submission to Canadian Radio/television and

Telecommunications Commission, Ottawa, Ontario, Canada, on behalf of AGT Limited, March 30, 1995.

"Preconditions of Efficiently Competitive Local Exchange Markets," submission to Canadian Radio/television and Telecommunications Commission, Ottawa, Ontario, Canada, on behalf of AGT Limited, March 15, 1995.

Testimony before the Connecticut Department of Public Utility Control, Docket Nos. 94-10-01-02, on incremental cost standards for network unbundling, on behalf of the Southern New England Telephone Company, January 10, 1995; Rebuttal Testimony, February 13, 1995.

"Comments on Competition in Electric Power," submission to Rhode Island Division of Public Utilities and Carriers, inquiry into retail competition in the electric utility industry, on behalf of The Narragansett Electric Company, Docket D-94-9, November 18, 1994.

Testimony before the State of New York Public Service Commission in the Petition of Rochester Telephone Corporation for Approval of Proposed Restructuring Plan (Panel on Public Policy Issues with Robert W. Crandall), Case Nos. 93-C-0033 and 93-C-0103, February 3, 1993; Testimony of Panel on Public Policy Issues in Support of Settlement, June 17, 1994; Rebuttal Testimony of Panel on Public Policy Issues, July 22, 1994.

Affidavit before the Federal Communications Commission In the Matter of Price Cap Performance Review for Local Exchange Carriers, Notice of Proposed Rulemaking, on behalf of Bell Atlantic, filed June 29, 1994.

Affidavit before the U.S. District Court for the Northern District of Alabama Southern Division on behalf of BellSouth Corporation on overturning the statutory prohibition of telephone companies carrying their own video programming, filed June 3, 1994.

Reply Affidavit before the U.S. District Court for the District of Michigan (Eastern Division) on behalf of Ameritech Corporation on overturning the statutory prohibition of telephone companies carrying their own video programming, filed May 16, 1994.

Affidavit before the U.S. District Court for the District of Columbia on behalf of Southwestern Bell in support of request for out-of-region waiver from the interLATA MFJ restrictions (with William E. Taylor), filed May 12, 1994.

Reply Affidavit before the U.S. District Court for the District of Maine on behalf of NYNEX Corporation on overturning the statutory prohibition of telephone companies carrying their own video programming, filed May 6, 1994.

Testimony on behalf of Bell Atlantic-New Jersey in proceeding involving the issue of opening the intraLATA toll market to competition, filed April 7, 1994; Rebuttal Testimony filed April 25, 1994.

Testimony on behalf of Massachusetts Electric Company before the Federal Energy Commission on wholesale wheeling and the problem of stranded investment. FERC Docket No. ER94-129-000, filed March 14, 1994.

Testimony on behalf of The Chesapeake and Potomac Telephone Company of Maryland, Case No. 8584, on the regulatory principles applicable to determining an efficient price for MFS-I's interconnection with C&P's network (with William E. Taylor), filed November 19, 1993; Rebuttal Testimony filed January 10, 1994; Surrebuttal Testimony filed January 24, 1994.

Affidavit to the Federal Communications Commission with respect to Interstate Long Distance Competition and AT&T's Motion for Reclassification as a Nondominant Carrier (with William E. Taylor), filed November 12, 1993.

Affidavit to the High Court of New Zealand on behalf of New Zealand Rail Limited involving wharfage charges by Port Marlborough, September 27, 1993.

Testimony before the Federal Energy Regulatory Commission On Behalf of a Group of Independent Refiner/Shippers on the proposed Revision to Oil Pipeline Regulations under the Energy Policy Act of 1992, Docket No. RM93-11-000, August 12, 1993.

Affidavit to the High Court of New Zealand on behalf of Air New Zealand, Ltd., and others in a proceeding involving landing charges by Wellington International Airport, Ltd., June 25, 1993.

Affidavit before the U.S. District Court for the Eastern District of Virginia in the matter of *The Chesapeake and Potomac Telephone Company of Virginia v. United States of America*, Civil Action No. 92-1751-A, June 5, 1993 and before the Federal Communications Commission *In the Matter of Amendments of Parts 32, 36, 61, 64 and 69 of the Commission's Rules to Establish and Implement Regulatory Procedures for Video Dial Tone Service*, Petition for Rulemaking RM 8221, June 7, 1993.

Testimony before Denver County District Court, Denver, Colorado, on behalf of Metropolitan Denver Water Authority re City of Denver water rates, May 17, 1993.

"Review of Regulatory Framework: Telecom Public Notice CRTC 92-78," on behalf of AGT (Alberta Government Telephone Company), Alberta Canada, April 13, 1993.

"Major Elements of a Competitive Telecommunications Policy," on behalf of AGT (Alberta Government Telephone Company), Alberta, Canada, February 15, 1993

Testimony on behalf of the Municipal Electric Association evaluating the soundness of Ontario Hydro's Demand Side Management program, December 1992.

Affidavit before the Federal Communications Commission *In the Matter of Amendment of the Commission's Rules to Establish New Personal Communications Services*, GEN Docket No. 90-314, ET Docket No. 92-100, November 6, 1992.

Testimony on behalf of New Zealand Telecom in an antitrust proceeding before the High Court of New Zealand involving terms of interconnection with Clear, a competitive provider of local transport, April 27, 1992.

Testimony on behalf of AMR Corporation and American Airlines, Inc., against UAL Corporation, United Airlines, Inc., UAL Acquisition, Inc., Air Wis Services, Inc., and Air Wisconsin, Inc., 91 CIV. 7773 (KMW), analyzing United Airlines' acquisition of Air Wisconsin's 50 O'Hare jet slots, March 2, 1991. Supplemental and Second Supplemental Testimonies, March 10 and 15, 1992.

Testimony before the Illinois Commerce Commission on behalf of Illinois Power Company, Docket No. P91-0001, on certification of a competing natural gas pipeline, February 24, 1992.

Rebuttal Testimony before the Florida Public Service Commission, Tampa Electric Co. Docket No. 910883EI, on electric utility company responsibilities for demand side management, November 20, 1991.

Affidavit before the Federal Communications Commission *In the Matter of Expanded Interconnection Between Local Telephone Facilities*, CC Docket No. 91-141 ENF-87-14, August 5, 1991.

Statement on behalf of United Kingdom of Great Britain and Northern Ireland in US/UK Arbitration Concerning Heathrow Airport User Charges, April 1991. Rebuttal and Surrebuttal Statements, June and July 1991; testimony before the International Court, The Hague, July 1991.

"The Treatment of New Services Under Price Cap Regulation," on behalf of BellSouth, Federal Communications Commission, June 10, 1991.

Testimony on behalf of Fireman's Fund Insurance Company before the Insurance Commissioner of the State of California re proposed action to repeal and adopt regulations concerning property and casualty insurance rates, February 20, 1991.
Testimony before the Federal Energy Regulatory Commission on behalf of Conoco, Inc. Kaneb Pipeline Operating Partnership, L.P., and Kerr-McGee Refining Corporation (Williams Pipeline), February 4, 1991.

Affidavit to the U.S. District Court for District of Columbia on behalf of Bell Atlantic Corporation in *United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company*, re MFJ restrictions on Bell Operating Companies' ability to offer information services, January 8, 1991.

Oral testimony before the Puerto Rican Legislature on privatization and future regulation of the Puerto Rico Telephone Company, June 20, 1990.

Testimony on behalf of Central Telephone Company of Florida before the Public Service Commission, June 12, 1990.

Testimony on behalf of Fireman's Fund Insurance Company on Proposition 103 Rate Regulation Hearings, February 5, 1990.

Testimony before Denver County District Court, Denver, Colorado, on behalf of Southgate Water District vs. Denver Water Authority on conduit extension charges, May 25, 1989.

Testimony before the Federal Communications Commission on behalf of Bell South In the Matter of Policy and Rules Concerning Rates for Dominant Carriers (CC Docket 87-313) October 1987 and Reply Testimony, November 1987.

Reply Verified Statement before the Interstate Commerce Commission on behalf of McCarty Farms et. al. and Montana Department of Commerce, on the stand-alone cost constraint on railroad rates to captive shippers, October 2, 1987.

Testimony before the New York State Public Service Commission on behalf of New York Telephone Company on assessing the competitiveness of telecommunications markets, April 1987.

Testimony before the New Jersey Senate Energy and Environment Committee on behalf of Public Service Electric and Gas Company on draft bill, No. 2801, the "Electricity Market Pricing Act of 1986," January 26, 1987.

Testimony before Federal Energy Regulatory Commission on behalf of Interstate Natural Gas Association of America on "Competitive Implications of Natural Gas Pipeline Marketing Affiliates," December 29, 1986.

Testimony before the New York State Public Service Commission on behalf of the Owners Committee on Electric Rates, Inc., on rent-inclusion and submetering, November 19, 1986.
Testimony before the Illinois Commerce Commission on behalf of Commonwealth Edison Company on standard for deciding whether Braidwood Unit 2 should be cancelled, August 4, 1986.

Verified Statement on Standards for Railroad Revenue Adequacy, on Interstate Commerce Commission's Ex Parte No. 393, Sub-No.1, July 1986.

Supplemental Verified Statement before the Interstate Commerce Commission, Docket No. 38783, Omaha Public Power District v. Burlington Northern Railroad Company on behalf of Omaha Public Power District, April 1986.

Statement to Federal Communications Commission on New England Telephone Company's Proposed Interstate Access Tariff Restructure, January 30, 1986.

Testimony before the Public Utilities Commission of the State of Oregon on inverted rate structures on behalf of the Pacific Power & Light company, January 1986.

Rebuttal Testimony before the California Public Utilities Commission on San Onofre nuclear plants on behalf of Southern California Edison Company, January 1986 and En Banc Proceeding, February 1986.

Testimony and rebuttal testimony before the Arizona Corporation Commission on behalf of Arizona Public Service Company on economic and regulatory principles applicable to entry of nuclear plants into rate base, December 1985, March 1986, December 1986 and March 1987.

Testimony before the Corporation Commission of the State of Oklahoma on economic principles applicable to access charges, Cause No. 29321 on behalf of Southwestern Bell Telephone Company, September 1985.

Testimony before the California Public Utilities Commission on regulatory principles applicable to prudence determinations on behalf of Southern California Edison Company, August 1985.

Testimony before the Corporation Commission of the State of Oklahoma on development of intrastate access charges, Cause No. 28309 on behalf of Southwestern Bell Telephone Company, May 1985.

Verified Statement before the Interstate Commerce Commission, Docket No. 38783 on behalf of Omaha Public Power District, on the grouping of captive shippers for purposes of applying a stand-alone cost test of contested rail rates, November 1984.

Testimony before the House Public Policy and Veterans Affairs Committee of the Indiana General Assembly on behalf of the Indiana Telephone Association, October 25, 1984.

Testimony before the Iowa State Commerce Commission, Docket No. INU-84-6, Investigation into competition in communications services and facilities, October 18, 1984.

Testimony and rebuttal testimony on current cash support for construction and the reorientation of regulatory policy before the Maine Public Utilities Commission, in the matter of Central Maine Power Company's proposed increase in rates, Docket No. 84-120, August 1984 and February 1985.

Testimony and rebuttal testimony for Illinois Power Company on rate base treatment of construction work in progress, before Illinois Commerce Commission, Docket No. 84-0480, August 1984 and April 1985.

Verified Statement before the Interstate Commerce Commission, Docket No. 39687, on behalf of Platte River Power Authority, on the proper definition of the cost of capital for purposes of applying a stand-alone cost test of contested rail rates, July 1984.

Verified Statement and Surrebuttal Verified Statement Before the Interstate Commerce Commission, Finance Docket No. 30300 on behalf of the Water Transport Association, in opposition to the application of CSX Corporation to acquire American Commercial Barge Lines, Inc., February 14, 1984 and April 19, 1984.

Direct and rebuttal testimony, Federal Energy Regulatory Commission, Trans Alaska Pipeline System, Dockets Nos. OR 78-1-014 and OR 78-1-016 (Phase I Remand) November 1, 1983 and December 23, 1983.

Verified Statement, Interstate Commerce Commission, on the stand alone test for rail rates to captive shippers, on behalf of Utility Fuels, Inc., Docket No. 39002, October 3, 1983.

Testimony on telephone rate structures before the Colorado Public Utilities Commission for Mountain States Telephone & Telegraph Company, May 27, 1983; the California Public Utilities

Commission, for Pacific Telephone & Telegraph Company, August 18, 1983; the Missouri Public Service Commission, September 8, 1983; and Texas Public Service Commission, September 19, 1983, for Southwestern Bell Company.

Testimony before the Utility Diversification Committee of the Legislature of the State of New Mexico, September 2, 1982.

Testimony before the Ad Hoc Committee on Utility Diversification, National Association of Regulatory Utility Commissioners, May 6, 1982.

Testimony before Motor Carrier Ratemaking Study Commission, Orlando, Florida, April 2, 1982.

Testimony before the State of Connecticut Department of Public Utility Control on methods of regulating rates for basic television cable service, March 9, 1982.

Testimony before the Committee of Energy and Public Utilities, The General Assembly of the State of Connecticut on regulation of cable television, March 1, 1982.

Testimony before the Public Utilities Commission of the State of California, for Pacific Power & Light Company on methods of allocating aggregate revenue requirements, September 24, 1981.

Verified Statement, Interstate Commerce Commission, Ex Parte No. 347 (Sub-No. 1), "Coal Rate Guidelines-Nationwide," September 1981.

Testimony for the Department of Justice in the U.S. v. Standard Oil Co. (Indiana) et al. Civil Suit 40212, filed July 28, 1964.

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CONTRIBUTIONS TO BOOKS:

Financing the Energy Industry, J.E. Hass, E.J. Mitchell and B.K. Stone, Ballinger, 1974.

An Introduction to Managerial Finance, H. Bierman, Jr. and J.E. Hass, W.W. Norton, 1973.

Matrix Algebra for Business and Economics, Searle and Hausman, Wiley, 1970.

PUBLISHED ARTICLES AND STUDIES:

"The Economics of Removing Asbestos From Buildings," *National Asbestos Council Journal*, Volume 5, No. 3 (Summer, 1987).

"Incentive Systems for Large-Scale Energy Projects," *Energy Systems and Policy*, Volume 8, No. 4 (1984).

"Equity Flotation Cost Adjustments in Cost of Service Pricing," *Public Utilities Fortnightly*, March 1, 1984 (with H. Bierman, Jr.).

"Investment Cut-off Rates and Dividend Policy," *Financial Management*, Winter 1983 (with H. Bierman, Jr.).

"Evaluation of Alternate Rate Structures for Philadelphia Gas Works," National Regulatory Research Institute, September 1978.

"An Analytical Model of Bond Risk Differentials," *Journal of Financial and Quantitative Analysis*, December 1975 (with H. Bierman, Jr.).

"Inflation, Equity, Efficiency and the Regulatory Pricing of Electricity," *Public Policy*, Summer 1975 (with H. Bierman, Jr.).

"How to Get Con Ed Out of the Capital Market Doghouse," *Financial Analysts Journal*, November-December 1974.

"Are High Cut-Off Rates a Fallacy?" *Financial Executive*, June 1973 (with H. Bierman, Jr.).

"Capital Budgeting Under Uncertainty: A Reformulation," *Journal of Finance*, March 1973 (with H. Bierman, Jr.).

"Modeling Problems and Problem Avoidance in Water Resources Management," *Water Resources Research*, June 1972.

"Closed Form Stock Price Models," *Journal of Financial and Quantitative Analysis*, June 1972 (with H. Bierman, Jr. and D.H. Downes).

"Decomposition Processes and Their Use in Joint Decision-Making," *Inter-Organizational Decision-Making*, M.F. Tuite, M. Radnor, and R.D. Chisholm, editors, Aldine Publishing Company, 1972.

"Normative Stock Price Models," *Journal of Financial and Quantitative Analysis*, December 1971 (with H. Bierman, Jr.).

"The Use and Misuse of the P/E Ratio in Acquisition and Merger Decisions," *Financial Executive*, October 1970 (with H. Bierman, Jr.).

"Optimal Taxing for the Abatement of Water Pollution," *Water Resources Research*, April 1970.

"Transfer Pricing in a Decentralized Firm," *Management Science*, February 1968.

"The Treatment of Tax-Exempt Securities of Life Insurance Company Income Taxation," *National Tax Journal*, December 1965 (with J. Bossons).

CONGRESSIONAL TESTIMONIES, PRESENTED PAPERS, AND MAJOR REPORTS:

"Annual Costs of North Slope Producing Facilities Associated With the Production of Natural Gas and Natural Gas Liquids Considered Crude Oil," National Economic Research Associates, Inc., January 1994.

"A Critical Appraisal of OTA's Pharmaceutical R&D: Costs, Risks and Rewards," National Economic Research Associates, Inc., May 1993.

"Net Realizations and Net Values of Alaska North Slope Crude Oil for Royalty Obligations," State of Alaska v. Amerada Hess et al, June 1990.

"Tanker Transportation Costs Used in Valuing Alaska North Slope Crude Oil Production for Royalty Obligations," State of Alaska v. Amerada Hess et al. June 1990.

"The Profitability and Pricing of Sabre Computer Reservation Services," submitted by American Airlines in Hearing before the Subcommittee on Aviation of the Committee on Commerce, Science, and Transportation, United States Senate, March 19, 1985.

"Efficiency, Fairness and ICC Railroad Revenue Adequacy," 25th Annual Meeting of the Transportation Research Forum, Boston, Mass., October 22, 1984.

"Incentive Regulation in the Electric Utility Industry," A Report to the Federal Energy Regulatory Commission, Washington, D.C., July 8, 1983 (with Dennis Goins, Michael Fischer, Ronald Ehrenberg and Robert Smiley).

"Major Issues in the President's Alaska Natural Gas Transportation System Waiver Package," Hearings before the House Subcommittee on Fossil Fuels of the Energy and Commerce Committee and House Subcommittee on Energy and the Environment of the Interior and Insular Affairs Committee, November 4, 1981.

"The ANGTS Primer," Office of the Federal Inspector of the Alaska Natural Gas Transportation System, Washington, D.C., June 1981.

"Risk, Return and the IROR Plan: A Report to the Federal Energy Regulatory Commission," Washington, D.C., March 1979.

"Remarks Before the Federal Energy Regulatory Commission on Rate of Return," Washington, D.C., December 8, 1978.

"Financing Supplemental Energy Projects," Annual Meeting of the Association of Petroleum Investment Analysts, Washington, D.C., March 2, 1978.

"New Directions for Energy Regulation," Conference on Regulation and Regulatory Reform, American Enterprise Institute, Washington, D.C., December 19, 1977 (with Richard L. Dunham).

"Responsible Regulation of Return on Equity," Finance Division Annual Meeting of the Edison Electric Institute, May 12, 1977, New York.

"Is There Any Place in Natural Gas Regulation for Economics?" Southwest Economic Association, Dallas, Texas, March 31, 1977.

"The Electric Utility Rate Reform and Regulation Improvement Act," Hearings before the Subcommittee on Energy and Power and the Committee on Interstate and Foreign Commerce, April 7, 1976.

"The Power Facilities Construction Act of 1975," Hearings before the Tax Expenditure Task Force of the U.S. House Budget Committee, February 24, 1976.

"Financing the Electric Utility Industry: The Real Solution," Electric Utility Financial Problems and Potential Solutions Workshop, Mitre Corporation (NSF), Washington, D.C., September 26, 1975.

"Future Capital Needs of the U.S. Energy Industry," Hearings before the Subcommittee on Government Regulation of the Select Committee on Small Business, United States Senate, August 7, 1974.

TESTIMONY BEFORE REGULATORY AGENCIES:

September, 1996	New York State Public Service Commission on behalf of Long Island Lighting Company regarding the Company's cost of equity capital (supplemental).
August, 1996	New York State Public Service Commission on behalf of Long Island Lighting Company regarding the Company's cost of equity capital.
April, 1996	State of Alaska, Department of Revenue, "Report of Professor Jerome E. Hass," regarding certain income tax issues (confidential).
February, 1996	State of Alaska, Department of Revenue, "Report of Professor Jerome E. Hass," regarding certain income tax issues (confidential).
January, 1996	Federal Energy Regulatory Commission on behalf of Refinery Holding Company, Chevron USA Products Company and the Estate of El Paso Refinery, L.P. regarding various tariff issues for Santa Fe Pipeline Partners (sur-surrebuttal).
December, 1995	Federal Energy Regulatory Commission on behalf of Liquid Energy Corporation and Enserch Processing Company regarding various tariff issues for Chevron Pipe Line Company (LPGS) (surrebuttal).
August, 1995	Federal Energy Regulatory Commission on behalf of Refinery Holding Company, Chevron USA Products Company and the Estate of El Paso Refinery, L.P. regarding various tariff issues for Santa Fe Pipeline Partners (rebuttal).
June, 1995	Federal Energy Regulatory Commission on behalf of Liquid Energy Corporation and Enserch Processing Company regarding various tariff issues for Chevron Pipe Line Company (LPGS).
June, 1995	Federal Energy Regulatory Commission on behalf of Refinery Holding Company regarding various tariff issues for Chevron Pipe Line Company (APS) (surrebuttal).

May, 1995	Federal Energy Regulatory Commission on behalf of Refinery Holding Company regarding various tariff issues for Chevron Pipe Line Company (APS) (supplemental).
March, 1995	Federal Energy Regulatory Commission on behalf of Refinery Holding Company regarding various tariff issues for Chevron Pipe Line Company (APS).
December, 1994	New Jersey Board of Public Utilities on behalf of Comcast (multiple) regarding the cost of capital.
November, 1994	Connecticut Department of Public Utility Control on behalf of Comcast Cablevision regarding the cost of capital (Affidavit).
November, 1994	New Jersey Board of Public Utilities on behalf of Garden State Cablevision regarding the cost of capital.
June, 1994	Federal Energy Regulatory Commission on behalf of Refinery Holding Company, Chevron USA Products Company and the Estate of El Paso Refinery, L.P. regarding various tariff issues for Santa Fe Pipeline Partners.
December, 1993	New York State Public Service Commission on behalf of Long Island Lighting Company regarding the cost of common equity.
December, 1992	New York State Public Service Commission on behalf of Long Island Lighting Company regarding the cost of common equity.
December, 1991	New York State Public Service Commission on behalf of Long Island Lighting Company regarding the cost of common equity.
January, 1991	New York State Public Service Commission on behalf of Multiple Intervenors regarding the cost of common equity and target cash interest coverage ratio for Rochester Gas & Electric.
February, 1990	Illinois Commerce Commission on behalf of Illinois Power Company regarding the cost of common equity and the proper capital structure to use in ratemaking.
February, 1990	New York State Public Service Commission on behalf of Multiple Intervenors regarding the cost of common equity and target cash interest coverage ratio for Rochester Gas & Electric.
November, 1989	New York State Public Service Commission on behalf of Multiple Intervenors regarding the cost of common equity and target cash interest coverage ratio for Central Hudson Gas & Electric Corporation.

October, 1989	Federal Energy Regulatory Commission on behalf of the State of Alaska regarding the proper capital structure and rates of return on debt and equity for the Endicott Pipeline Company.
April, 1989	Federal Energy Regulatory Commission on behalf of Air Transport Association of America regarding the profitability of Buckeye Pipe Line Company, L.P., and the ability of the Commission to rely upon market forces in place of active regulation.
October, 1988	New York State Public Service Commission on behalf of Multiple Intervenors regarding the cost of common equity and target cash interest coverage ratio for Central Hudson Gas & Electric Corporation.
March, 1988	Illinois Commerce Commission on behalf of Illinois Power Company regarding the cost of common equity.
June, 1987	South Dakota Public Utilities Commission on behalf of Otter Tail Power Company regarding the cost of common equity.
March, 1987	New York State Public Service Commission on behalf of Long Island Lighting Company regarding the cost of common equity to the company under different Shoreham and Nine Mile Point II status scenarios.
November, 1986	Minnesota Public Utilities Commission on behalf of Otter Tail Power Company regarding the cost of common equity.
November, 1986	Federal Energy Regulatory Commission on behalf of the State of Alaska regarding the proper capital structure and rates of return on debt and equity for the Kuparuk Transportation Company.
August, 1985	California Public Utilities Commission on behalf of Pacific Gas & Electric Company regarding the costs and benefits to customers from different interim tariffs for the Diablo Canyon plant.
February, 1985	New York State Public Service Commission on behalf of Long Island Lighting Company regarding the cost of common equity to the company under different Shoreham status scenarios.
January, 1985	Illinois Commerce Commission on behalf of Illinois Power Company regarding the cost of common equity and the effects on the costs of capital of phasing construction work-in-progress in rate base.
November, 1984	Maine Public Utilities Commission on behalf of Central Maine Power Company regarding the cost of common equity.
October, 1984	Arizona Corporation Commission on behalf of Arizona Public Service regarding an operating incentive system for the Company's base load units.

February, 1984	Arizona Corporation Commission on behalf of Arizona Public Service regarding the use of incentive systems for electric utilities.
January, 1984	New York State Public Service Commission on behalf of Long Island Lighting Company regarding the cost of common equity.
January, 1984	Federal Energy Regulatory Commission on behalf of the State of Alaska and the Department of Justice on the methodology of setting tariffs for the Trans-Alaska Oil Pipeline.
December, 1983	Department of Public Utility Control on behalf of United Cable Television of Connecticut regarding proper ratemaking and cost of equity.
May, 1983	Illinois Commerce Commission on behalf of Illinois Power Company regarding customers' costs and benefits from permitting construction work in progress in rate base.
1981-1983	Public Service Commissions in Minnesota, North Dakota and South Dakota and the Federal Energy Regulatory Commission on behalf of Otter Tail Power Company regarding the cost of common equity.
March, 1979	Testimony before the Philadelphia Gas Commission relating to proper practices for service termination, billing, and other customer-related activities of the Philadelphia Gas Works.
September, 1976	Before the Federal Power Commission on behalf of the Commission Staff regarding the determination of the fair market value and net salvage value of a pipeline proposed to be abandoned from gas transmission service.

TESTIMONY BEFORE COURTS:

June, 1994	Long Island Lighting Company v. The Assessor and the Board of Assessment for the Town of Brookhaven, et al, Supreme Court of the State of New York, County of Suffolk. Testified regarding the maximum economic values and percent conditions of the Shoreham Nuclear Power Station for the years 1984 through 1991.
June, 1992	Niagara Mohawk Power Corporation et al, v. Stone & Webster Engineering Corporation, et al, United States District Court for the Northern District of New York. Testified regarding the reasonableness of financing costs incurred by plaintiffs associated with repairs to the Nine Mile Point 2 nuclear power plant.
August, 1990	Long Island Lighting Company v. The Assessor and the Board of Assessment for the Town of Brookhaven, et al, Supreme Court of the State

of New York, County of Suffolk. Testified regarding the maximum economic values and percent conditions of the Shoreham Nuclear Power Station for the years 1976 through 1983.

November, 1989	Continental Airlines, et al. v. American Airlines, et al. U.S. District Court (Central District of California). Testified regarding the reasonableness of the rate of return earned by American Airlines on its computerized reservation system investment.
February, 1989	ETSI Pipeline Project, et al. v. Burlington Northern, et al. U.S. District Court (Eastern District of Texas). Gave oral expert testimony regarding the determination of damages to Houston Light & Power customers arising from the actions of railroads which forced cancellation of the ETSI project, a coal slurry pipeline.
October, 1987	Shamrock Associates v. Horizon Corporation et al. U.S. District Court (Southern District of New York). Gave oral expert testimony regarding fairness of two security transactions between Horizon Corporation and MCO Holdings and provided estimates of damages to Horizon therefrom.
July, 1984	Exxon Corporation v. The United States, U.S. Claims Court. Filed expert report and testified on behalf of Exxon regarding valuation of refining and marketing assets seized in Cuba.
April, 1984	State of Alaska v. Phillips Petroleum Company, Alaska District Court. Filed expert report on behalf of State in royalty litigation regarding the value of natural gas produced in Cook Inlet for liquification and sale to Japan.
February, 1982	Carl F. Matzen, et al v. Cities Service Oil Company, et al. Testified on behalf of producers in royalty litigation regarding value of natural gas sold in interstate commerce.

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Attachment B

Testimony of

DR. HARVEY A. LEVINE

Before the United States Senate,

Committee on Commerce, Science and Transportation,

Subcommittee on Surface

Transportation & Merchant Marine

On Issues Relating to the Freight Railroad Industry

May 9, 2001

Mr. Chairman and members of the Subcommittee, I appreciate this opportunity to present my perspective on issues concerning the freight railroad industry relative to the industry's financial performance, current posture, and future needs. My experience spans over 35 years in the field of transportation in general and railroad economics in particular, including employment with: railroad customers (shippers), the New York Central Railroad, the U.S. Department of Transportation (DOT), several transportation consulting companies, the Interstate Commerce Commission (ICC), and the railroad industry's major trade association, where for 18 years, I was the Vice President of the Economics & Finance Department. I also have taught transportation economics and other business subjects at several universities, written a book on national transportation policy, and co-authored a book on local and regional railroads. Over the past four years, I have provided consultation to a multitude of railroad, shipper, and other organizations involved in, or affected by, freight railroads. As an independent transportation economist and consultant, the views that I present in this testimony are strictly my own, based on what I believe to be the public interest.

No matter what my past professional position, I have always believed that a financially viable, freight-railroad industry is in the public interest. After all, railroads are conduits that serve the function of providing time and place (location) utility to our nation's consumers. Adequately staffed and capitalized railroads are needed for such an important role, but at the same time, it is through the satisfaction of customer needs that railroads have the opportunity to become financially viable. Thus, the achievement of railroad financial adequacy and the satisfaction of rail customer needs are two sides of the same coin. And it is with this concept in mind, that I offer this testimony.

The current state of affairs in freight railroading is controversial, highly contentious, and somewhat beyond the comprehension of many people, but it retains the one constant that has characterized freight railroads since before World War II—a perceived financial need, commonly referenced as a capital shortfall. Railroads, in their presentations to the ICC, Surface Transportation Board (STB), and public policy makers, describe themselves as being burdened with "woefully inadequate earnings," even if individual carriers were financially stable, and no matter what the railroads earned. The industry gained support for this view from the ICC beginning in 1978, when the first annual revenue-adequacy determination was made. This determination has been continued by the STB since 1996. During more recent years, the railroads' mantra of "woefully inadequate earnings" has been replaced by "revenue inadequacy." In fact, of the four dominant railroads that currently control the overwhelming portion of railroad traffic, only the Norfolk Southern (NS) has been declared by the regulatory agency to be revenue adequate in more than a single year. The Burlington Northern (BN) was deemed to be revenue adequate in 1989 and the Union Pacific (UP) in 1995. CSX Transportation has never been found to be revenue adequate. However, what CSX's president, as well as other railroad executives, has stated in his company's annual report to shareholders is another matter.

Incredibly, the alleged state of railroad revenue inadequacy prevailed during the early and mid-1990s, even when railroads enjoyed record earnings and the president of the industry's major trade association -- the Association of American Railroads (AAR) – touted the "Second Golden Age of Railroading." Magazine articles abounded with such positive headlines as "Back on the Right Track," and "Back at Full Throttle." Consider the financial strength at the time of the current four dominant railroads. In 1994, the BN earned an impressive 16.9% rate of return on equity (ROE) -- that is, net profit after fixed charges and incomes taxes are paid as a percent of the value of the owners' investment. Furthermore, the BN had the financial capacity to outbid the UP and acquire the Atchison Topeka & Santa Railroad (ATSF) in 1995 for $4.1 billion. Similarly, in 1995, the UP earned a 16.7% ROE and completed its purchase of the Southern Pacific Railroad (SP) in the following year for about $4.0 billion. In 1997, the CSX and NS railroads realized ROEs of 12.4% and 12.6% respectively, and consummated their joint purchase of Conrail for over $10 billion in 1999. And yet, with the exception of the NS in 1997, these railroads were declared by the STB to be revenue inadequate during those years. At the same time, the four railroads expended billions of dollars in employee buyouts, distributed expected dividends to their shareholders, and paid sizeable bonuses to their executives.

What is especially troublesome about the current state of alleged railroad revenue inadequacy is that it comes when the industry has been merged into four dominant carriers based largely on the theory that such consolidation was necessary to achieve revenue adequacy. As shown below, the number of Class I railroads has shrunk from 109 in 1960, to 36 in 1980 and to seven in 1999 -- with two of these carriers being owned by the Canadian National and Canadian Pacific railroads. Furthermore, the concentration of power has greatly increased among the four largest railroads, rising from 25%

of Class I railroad traffic in 1960, to 43% in 1980, and an astonishingly 95%

Year	Number of Class I Railroads	Percent of Traffic Carried By Four Largest Railroads
1960	109	25%
1980	36	43
1999	7	95

in 1999.[1] These four dominant railroads -- two each in the East and West -- control more than the traffic they handle. They also have significant control over traffic on both local (short line) and regional railroads and either control or heavily influence: industry-wide procedures in regard to operating – including, interline -- rules; accounting practices; car-repair billing; technological research and development; and, policy development and strategy.

What is additionally astonishing about the four "mega-railroads" is that they were created based on projections of huge financial benefits. For example, the BN's purchase of the ATSF came when the former was already making record profits, and when the BN projected that the purchase would save the railroad $450 million annually in operating expenses and add another $110 million in operating income. Similarly, the UP was earning record profits in 1996 when it purchased the SP based on an operating income benefit of $820 million by the year 2001. And the CSX and NS purchase of Conrail in 1999 came at a time when those railroads were earning moderate profits, and when they projected significant benefits mainly in the form of cost reduction and traffic diversion from motor carriage.

No matter what it is called -- that is, "woefully inadequate earnings," "revenue inadequacy," or even "sub-par financial performance," where railroads can demonstrate a capital need, they have support, if not an outright propensity, for acceptance of their industry-wide, policy positions. The answer to the question of "How can we help the poor railroads?" may come in the form of: tax relief; low-interest loans; outright grants; approval of mergers and acquisitions; rate increases to rail-dependent customers; changes in demurrage provisions; and, the warding off of otherwise desirable market competition. Consequently, with railroads still being cast as revenue inadequate by the STB, the environment exists for more of the same – that is, for more railroad behavior based on alleged capital need; more explanations for inadequate service and increased freight rates; and an even greater concentration of power. This is not to say that in some years, railroads don't have a capital need, and it is not to say that the two railroads in the East are not currently earning sub-par profits. However, the permanent state of alleged railroad financial depravity is a frightening prospect for rail-dependent shippers and should be to the public at large.

The latest rationale of the railroads' alleged revenue inadequacy is that competition forced them to pass on their massive productivity gains to their customers, proving that railroad competition is more than adequate. The productivity gains have been attributed to deregulation as enacted by the Staggers Rail Act of 1980, as is seemingly all good things that have happened to railroads since that time. In turn, the combination of continued capital need and competitive markets means that the railroads cannot afford any more competition. After all, proffer the railroads, new competitors would "skim the cream" off the top and leave the incumbents with little more than the lower-margin, more competitive traffic. This is a picture which on the surface appears to be plausible, for to refute it requires an unusually deep understanding of railroad financial data, statistical methodologies, cause-and-effect relationships, rail-customer service levels, and railroad behavior in general. In essence, railroad issues relating to national transportation policy are often embodied in a mass of statistical information and economic theory.

My perspective of the state of the freight railroad industry is different from that being portrayed by the industry itself. As a reflection of my views, I present three observations below, including summary statements of support and recommendations, followed by a more detailed discussion leading to each of the three observations.

1. Railroad data presented in annual reports to shareholders, and supplemental data to the Securities & Exchange Commission (SEC), is often in conflict with industry-wide data distributed to and by the STB and especially that agency's annual determination of railroad revenue adequacy.

    - Railroad revenue need is synonymous with capital attractiveness.

- Railroads compete for capital in open capital markets against companies who provide annual financial reports to their shareholders and supplemental financial information to the SEC.

- Potential investors rely upon the financial documents prepared and provided by the owners of businesses in consideration of where and when to invest their funds.

- Consequently, where railroad capital attractiveness is at issue, annual reports to shareholders and supplemental data to the SEC should be used as the basis for analysis.

- At the same time, the link between the STB's annual determination of railroad revenue adequacy and capital attractiveness is at best elusive and in all probability, non-existent.

- The annual STB revenue-adequacy determination should be terminated and railroad financial data submitted to the Board should be consistent with the information presented to shareholders and the SEC.

- Finally, railroad revenue need should be thought of in terms of: (1) individual railroads as opposed to an industry-wide average, (2) as a fluid, and thus temporal state of being, and (3) as a prospective concept.

Railroads are no different than other for-profit companies in that they must pay their operating expenses, meet the interest obligation on their funded debt, and have the ability to attract needed equity capital if they are to provide adequate service to their customers. By earning any level of net profit, operating expenses and interest charges are paid because such profit is calculated after those payments and income taxes are subtracted from revenue. Thus, stripped of its trappings, the issue in regard to railroad financial viability is that of capital attractiveness to providers of equity. This attractiveness is enhanced by a variety of factors including the most recent returns to the providers of equity capital – measured by the ROE – a strong balance sheet, significant cash flow relative to capital expenditures, and sound management policies and procedures. Many of these considerations are discussed in the railroad's annual reports to their shareholders and other information provided to the SEC. In fact, the "President's Message" sets the tone for the annual report to shareholders. But the overall message, analysis of financial performance, and even thoughts about the future, are not revealed in the annual reports to the STB. They are also not reflected in the STB's annual revenue-adequacy determination. This disparity can lead to contradictory views by the railroad itself, and between the railroad and the STB. Consider an especially egregious case involving the UP in 1996.

By any reasonable standard, 1996 was a great year for the UP and its parent company, Union Pacific Corporation (UPC). As stated by the Chairman and Chief Executive Officer of UPC:

> *The Union Pacific merger, the spin-off of the Resources company and the full integration of the Chicago and North Western acquisition, made 1996 a banner year that created significant value for shareholders and positioned this company for the future as a highly competitive, premier transportation provider. Through all of these strategic achievements, we kept our eye on the numbers, reporting record financial results. Our income from continuing operations was $733 million compared to $619 million in 1995, a gain of 18 percent.*[2]

UPC earned an ROE of 12.4% in 1996, largely sparked by the railroad's ROE of 16.6%. To UPC and the UP, these profits were more than adequate. They not only exceeded the corporate ROE threshold that triggered executive bonuses and the long-term compensation package (stock grants and options), they also exceeded the maximum-payout level to those executives. Consequently, aside from significant amounts of stock distributions, the average bonus given to 138 UPC executives in 1996 amounted to a record $112,000.[3] Furthermore, when in 1997 UPC earnings were below the executive-bonus threshold, the corporation still awarded $7.1 million to 154 executives because "a balance was available in the reserve fund from prior years."[4] In essence, surplus profits from 1996 were used to further reward executives in 1997. At the same time, the STB found the railroad to be revenue inadequate in 1996. Rhetorically speaking, who would potential equity investors be most likely to believe? – the company itself or the STB, which based its conclusion on a single, statistical and highly controversial calculation? The unfortunate result of the STB's declaration of revenue inadequacy is not only that it could be applied in regulatory proceedings involving maximum rates, but that the UP could adopt it as support for its positions of public policy.

In general, the financial health of individual railroads is far better than that projected by the revenue-adequacy determination. Consider the case of the four dominant railroads in 1999. While they were all declared to be revenue inadequate, the BNSF earned a healthy 13.9% ROE and the UP a moderate 9.5% ROE. While these figures may have been below the STB's cost-of-capital calculation, did they really deter either railroad from attracting needed capital? Where is the evidence of such capital shortfalls? With interest rates around seven percent, the equity investors in these two railroads were rewarded for their risk taking, and both railroads spoke of even more promising returns in the future -- that is, in their annual reports to shareholders and in their presentations to Wall Street security analysts. Furthermore, in his oral presentation to the STB regarding the BNSF's proposed merger with the Canadian National system, the president of the BNSF boasted of his railroad being into its strongest financial position in history. The reality is, that the record abounds with examples of railroad executives calling attention to their strong financial results in the annual reports to shareholders, while citing their STB-determined revenue inadequacy in matters of public policy.

In essence, the STB's annual determination of railroad revenue adequacy serves no useful purpose and can be highly misleading. A railroad cost of capital can be estimated without an annual revenue-adequacy determination. At the same time, potential equity investors can employ the more credible railroad annual reports to shareholders, and if desired, supplemental financial reports to the SEC, to help them in their determinations as to where they funds should be invested. Annual reports to shareholders represent the "real world;" the same cannot be said for the STB determination.

2. Railroad deregulation as enacted by the Staggers Rail Act of 1980 has been given far too much credit for both the significant gains in railroad productivity and the ensuing constraints on freight rates, thereby inappropriately inferring that railroad market competition is ubiquitous.

   - With the exception of liberalized procedures for eliminating light-density branch lines, there is no direct link between the Staggers Rail Act and increases in railroad productivity.

- Aside from a host of other factors, railroad productivity gains have emanated largely from favorable union contracts (supported by Presidential Emergency Boards) resulting in the elimination of many employees.

- The measure of freight-revenue-per-ton-mile is a limited surrogate for actual freight rates, and its use by the railroad industry and the STB results in improper conclusions regarding both freight rates and the impact of deregulation.

- Railroad productivity gains have been shared directly by shippers in competitive markets and the railroads themselves, but no matter how the benefits have been distributed, rail-dependent customers exist and are still faced with the lack of carrier choice.

- The existence of rail-dependent customers is a reality that should not be ignored by the STB – whose purpose is, in fact, to address the needs of such shippers -- or by national transportation policy.

- In addition to providing adequate carrier choices for rail-dependent customers, an appropriate remedy for their complaints appears to be the "Final Offer Arbitration" (FOA) process available to railroad customers in Canada.

- Professional arbitrators can replace the lengthy and costly STB maximum -rate procedures and as in Canada, complete the process within 60 days.

There is no disputing that since the Staggers Act was passed in 1980, the railroad industry has become more productive, and has passed on a portion of this productivity to some of its customers in the form of constrained pricing. But with the exception of the more liberal provisions to eliminate light-density branch lines, there is no evidence that links the Staggers Act with increased railroad productivity. The major contribution of deregulation was to free the railroads from the unnecessary cost of regulatory proceedings involving competitive traffic. Money was certainly saved in these instances, but this regulatory efficiency had nothing to do with reducing the bloated labor force, eliminating duplicate facilities, and implementing cost-saving procedures. Those achievements were due to a combination of factors including: a heightened sense of need on the part of management; the introduction of new technology, economies of scale and density associated with mergers and acquisitions, and especially, favorably-negotiated labor contracts (including billions of dollars worth of buyouts). In fact, as shown below, the number of employees working for Class I railroads has been in a long-term decline since its peak of 2.1 million in 1916.

Year	Number of Class I Employees[5] (Thousand)
1916	2,148
1929	1,661
1955	1,015
1970	566
1980	458
1999	178

Mis-casting the Staggers Act as the cause of increased railroad productivity and constrained pricing inappropriately supports a continuation of present market conditions; and yet, this is exactly what the railroad industry and the STB do. They use an industry-wide, unaudited, inflation-adjusted, and deficient surrogate for railroad freight rates -- more specifically, freight revenue-per-ton-mile – to proffer that railroad rates have declined since 1980, and then automatically tie those alleged decreases to the enactment of the Staggers Act in that year. What is not mentioned is that the rate surrogate had been declining before 1980, and its relationship to actual freight rates is at best, dubious. Furthermore, actual rate surveys undertaken by the AAR in 1980 provide evidence as to the inappropriateness of the surrogate measure.

The reliance on the average freight-revenue-per-ton-mile measure is an example of how the manipulation of large and varied databases can act to confuse issues. The issue before the STB should not be overall, average railroad freight rates. In the first place, freight rates should be related to individual railroads, individual commodities, individual markets, levels of cost, and levels of service. But even more importantly, in regard to railroad matters, the STB exists only because there are rail-dependent customers. These customers, as well as the STB, should not be concerned with averages, surrogates, and inappropriate cause-and-affect relationships.

The reality is that deregulation did little, if anything, to address the needs of rail-dependent customers. These shippers have become increasingly vocal in regard to their captivity and the railroads' insensitivity to their needs. Similarly, they find virtually no relief in the regulatory process. While the Staggers Rail Act requires *fair and expeditious regulatory decisions*, the "fairness" of current standards is at best, questionable, and there has been nothing expeditious about regulatory decisions. Some maximum rate proceedings have taken more than 10 years to resolve, while regulatory proceedings in general are extremely costly, time consuming, and intimidating to shippers. At the same time, because of fewer and similar operations, railroads have strengthened their common resolve and have the financial resources to employ a delay-and-wear-them-down strategy. This has added to the lengthy and costly regulatory proceedings favoring the staying power of railroads.

An alternative to the ineffective regulatory proceedings administered by the STB, would be the concept of Final Offer Arbitration (FOA), similar to the practice in Canada. In a nutshell, FOA is a process employing either a single arbitrator, or a panel of three arbitrators, to resolve rate and/or service disputes between railroads and their dependent customers. Unless otherwise agreed to by the parties, decisions are binding and last for a stated period of time. Benefits of FOA as applied in Canada, compared with current railroad regulatory practices are as follows:

- The arbitrator's decision is made within 60 days compared with proceedings taking years – in some historic cases, over 10 years.

- Railroad customers would identify their rail dependency by committing to file FOA submissions. They are unlikely to be frivolous submissions because of the accompanying costs. This eliminates the need for theoretical and controversial determinations of "captivity" and "market dominance."

- FOA offers by both parties are likely to be moderate in that the arbitrator must pick one or the other (i.e., baseball-style arbitration). An unreasonable offer is likely to be readily rejected. This brings the dispute into a more practical zone of analysis and encourages a negotiated railroad-customer agreement prior to an FOA decision.

- There are a host of available arbitrators, and thus the process has more credibility than alternative regulatory decisions. Unlike members of the regulatory authority, arbitrators are not political appointees. They are qualified experts whose records and reputations determine whether or not they will be selected for arbitration.

- The cost of arbitration is shared equally between the railroads and their customers. While the customers' initial experience in arbitration may be somewhat costly, it is far less than that of current regulatory proceedings. Furthermore, customer expenses decline as experience with FOAs is gained.

- The FOA process takes railroad-customer disputes out of the political process. Often, the disputes are resolved by the involved parties after an arbitration application is filed but before a decision is made. In essence, moving from an FOA-type decision-making process seems to be a win-win situation for railroads and their dependent customers.

3. While prudent railroad cost control is admirable, public policy can best be served if railroads increase their traffic volume, thereby helping to relieve highway congestion, having a positive impact on the environment, and providing relatively low-cost transportation service; adequate competition should help to stimulate traffic growth and improve overall profitability.

    - The major economic focus of railroads has been to maximize profits through cost reduction.

    - While intermodal traffic has grown significantly, massive railroad cost cutting has not helped railroads to increase their market share, especially vis-a-vie the motor carrier industry.

    - Traffic growth requires the satisfaction of shipper needs and in turn, this requires a sensitivity to those needs, a commitment to fulfill those needs, and innovative and flexible thinking.

    - The culture of the large freight railroads is one that is slow to change and has never been known to have keen market sensitivity.

- Adequate railroad competition could add to railroad efficiency, but more importantly, could provide the needed sensitivity to shipper needs.

- The encouragement of railroad competition is consistent with the goals of the Staggers Rail Act of 1980.

- Public policy should not automatically preclude the enactment of provisions that provide for increased access – and thus, competition – to the railroad infrastructure.

- The very same public that provided railroads with exclusive rights-of-way and limited competition has the right to adjust the level of competition when conditions demand it.

The railroads' emphasis on cost cutting over the past 20 years is well documented. In fact, projected efficiencies were the major factor supporting the many mergers and acquisitions during these years. For example, in 1980 the railroads' operating expense per ton-mile was 2.75 cents compared with 1.95 cents in 1999.[6] This decline was realized in the face of virtually a 100 percent rate of inflation during those 19 years. And as previously shown, the reduction in railroad costs was led by draconian cuts in the level of railroad employment. Rational cost cutting is admirable and in the interest of shareholders, but what is also important -- especially to the public at large -- is that railroads recapture some of their lost market share, and here, the story is not good.

The railroads' share of intercity tonnage has steadily declined – from 46.7 percent in 1950, to 28.7 percent in 1980 and 25.1 percent in 1998.[7] During the late 1980s and early 1990s there was a leveling off of this downward trend, but it again has started to recede. In 1996 the railroad percent of market share was 25.8 percent, falling to 25.1 percent in 1997 and remaining there in 1998. With the motor carrier industry currently carrying about double the tonnage hauled by railroads, there is a substantial traffic base available for railroad penetration – or in reality, for market recapturing. This potential traffic base is expected to expand significantly in the future, as DOT has projected annual average increases in the U.S. domestic freight market of 3.4 percent annual between now and the year 2010.[8] Furthermore, DOT projections call for an annual 4.0 percent increase in U.S. international traffic over the next decade. Clearly, there is a sizeable market for potential railroad penetration. But such penetration requires more than continued railroad cost cutting. It requires the ability to meet customer service standards at reasonable prices. It requires competition. It requires compliance with the Staggers Rail Act, which recognized the need for competition among railroads.

The Staggers Rail Act supports and encourages the existence of rail competition in the marketplace. One of its policies is, *To ensure the development and continuation of a sound rail transportation system with effective competition among rail carriers and with other modes, to meet the needs of the public and the national defense.* This policy is supported by two other policy statements: (1) *to reduce regulatory barriers to entry into and exist from the industry*, and (2) . . . *to avoid undue concentrations of market power* . . . These policies are consistent with one of the findings of the Staggers Act, which is that: *Greater reliance on the marketplace is essential in order to achieve maximum utilization of railroads to save energy and combat inflation.*

There are many ways to induce adequate railroad competition in the marketplace. Railroads themselves can generate competition through commercial agreements and voluntary sharing of infrastructure. The selling of branch lines to local and regional railroads – without so-called "paper barriers" is a form of increased competition. So are expanded reciprocal-switching zones. The STB can induce added competition by disallowing bottlenecks in its decisions on maximum rates. And Congress can mandate adequate competition through a change in legislation that provides for increased access, somewhat on the order of the "running rights" provision available to shippers in Canada. In the case of running rights, a railroad would have to petition the STB for the use of another railroad's facilities, but with over 400 local and regional railroads in existence, such a provision may be useful. The success of such a policy is already well documented right here in the U.S. and by the railroads themselves. Both BN and UP have testified that the application of 4000 miles of trackage rights—which were imposed by the STB as a condition of the UP-SP merger—are working very well for both customers and railroads. And despite claims to the contrary, when railroads oppose policies that would increase access in this way, trackage rights have resulted in no safety or operational problems, at least none reported by the railroads at this time. The point is, that adequate competition is not evil. In fact, competition is the only route for ensuring long-term financial viability for the rail industry. Deregulation and competition are inseparable. With adequate competition, the partial deregulation that now prevails can be completed and full deregulation can be implemented. Partial deregulation with ineffective regulation is not a formula for traffic growth. Without meeting shipper needs, the future of a privately-owned-and-operated, financially viable, freight railroad structure in this country is dubious. Meeting customer needs is the number one priority of virtually all for-profit companies in competitive markets, and it must be at the core of national transportation policy affecting railroads. Adequate competition is what drives customer satisfaction, and this basic concept of the free-enterprise system is what drives the country's standard of living.

In conclusion, it is my belief that staying the present course -- that is, preventing adequate competition while relying on ineffective regulation – will do little, if anything, to ease the burden on rail-dependent customers, to make railroads more customer-driven, and to grow the traffic. At worse, it will lead to further consolidation and possibly, to government subsidization of the freight-railroad infrastructure.

I thank you for the opportunity to prevent my views, and I would be pleased to answer any questions.

ENDNOTES

1. Association of American Railroads, Analysis of Class I Railroads (annual). Interstate Commerce Commission, Statistics of Railways in the United States For the Year 1960.

2. Union Pacific Corporation, 1996 Annual Report, "Letter to Our Shareholders," p. 1.

3. Union Pacific Corporation, Proxy Statement to the Securities & Exchange Commission, 1996, from DGAR database on SEC's Web Site.

4. Ibid, 1997., p. 21.

5. Association of American Railroads, Railroad Facts and Railroad Ten-Year Trends. Interstate Commerce Commission, Railroad Transportation, A Statistical Record, 1911-1951, and Statistics of Railways in the United States For The Year Ended 1929, 1955, 1970.

6. Analysis of Class I Railroads, Ibid.

7. Eno Transportation Foundation, Transportation in America 1999, p. 46.

8. Federal Highway Administration, U. S. Department of Transportation, Freight Forecast Growth Rates, 2001.

Attachment C

ECONOMIC ANALYSIS GROUP
COMPETITION ADVOCACY PAPER

Against the Stand-Alone-Cost Test in U.S.
Freight Rail Regulation

by

Russell Pittman *

EAG 10-1 CA April 2010

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Abstract

The stand-alone-cost test has become an expensive, extensive, and time-consuming part of the regulatory practice of the U.S. Surface Transportation Board in the performance of its statutory duty to protect "captive shippers" from monopoly rail rates. Worse, a close examination of the history of its adoption and application suggests only a very tenuous connection with its claimed intellectual foundations, the classic works of Faulhaber (1975) and Baumol, Panzar, and Willig (1982). It is time to retire this tool and replace it with something simpler and more effective and transparent.

Against the Stand-Alone-Cost Test in U.S. Freight Rail Regulation

Rate regulation for the majority of freight movements on U.S. railroads was eliminated by the Staggers Act (49 U.S.C., Public Law 94-473) in 1980. However, one category of traffic remains subject to potential regulation: that carried by so-called "captive shippers," those shippers with no economic alternative to the use of a single railroad.[1] A recent decision by the rail regulator, the Surface Transportation Board (STB), interprets the statutory principle as follows:

> Where a railroad has market dominance, its transportation rates must be *reasonable*. Market dominance is defined as an absence of effective competition from other rail carriers or modes of transportation for the transportation to which a rate applies. The Board is precluded from finding market dominance if the revenues produced by a challenged rate are less than 180% of the carrier's variable costs of providing the service.[2]

In 1985 the predecessor agency to the STB, the Interstate Commerce Commission, issued its *Coal Rate Guidelines, Nationwide*, which set out the standards by which the Commission (and later the STB) would evaluate the "reasonableness" of rates charged to captive shippers.[3] These standards went under the label "constrained market pricing" (CMP) – a label that could alternatively be phrased "constrained differential pricing".

> The objectives of CMP can be simply stated. A captive shipper should not be required to pay more than is necessary for the carrier involved to earn adequate revenues. Nor should it pay more than is necessary for efficient service. And a captive shipper should not bear the cost of any facilities or services from which it derives no benefit.[4]

In formulating CMP, the ICC acknowledged the welfare advantages of differential or Ramsey pricing – prices set inversely to the demand elasticities of customers – in the presence of economies of scale sufficient to render marginal cost pricing impractical. However, the freedom of the railroads to set differential prices would not be unlimited. In particular:

> CMP contains three main constraints on the extent to which a railroad may charge differentially higher rates on captive traffic. The *revenue adequacy constraint* ensures that a captive shipper "will not be required to continue to pay differentially higher rates than other shippers when some or all of that differential is no longer necessary to ensure a financially sound carrier capable of meeting its

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[1] In a companion paper (Pittman, forthcoming), I discuss legislative proposals to increase the protections offered to captive shippers by removing the partial antitrust exemption currently enjoyed by U.S. freight railways.

[2] *Major Issues in Rail Rate Cases*, STB Ex Parte No. 657 (Sub-No. 1), October 30, 2006, at 5-6, emphasis added, citations omitted.

[3] 1 I.C.C. 2d 520 (1985).

[4] *Major Issues in Rail Cases*, at 6-7.

> current and future service needs." The *management efficiency constraint* protects captive shippers from paying for avoidable inefficiencies ... that are shown to increase a railroad's revenue need to a point where the shipper's rate is affected. The *stand-alone cost (SAC) constraint* protects a captive shipper from bearing costs of inefficiencies or from cross-subsidizing other traffic by paying more than the revenue needed to replicate rail service to a select subset of the carrier's traffic base.[5]

Finally,

> The Stand-Alone-Cost test posits a hypothetical railroad that serves a subset of the movements in the railroad's network, including the route used by the complaining shipper. That hypothetical railroad is called a Stand-Alone Railroad, known as a SARR, and it is designed to be optimally efficient. The Stand-Alone-Cost test determines the rate that the shippers using the SARR ... would be charged by taking into account the costs of running the SARR, including a reasonable return on investment.... The amount of those costs becomes the maximum amount that the railroad may collect from the traffic group.[6]

Unfortunately, in the decades following the ICC's issuance of the Guidelines, the stand-alone-cost (SAC) test has become what a reviewing court feared it would be: "a full employment bill for economists".[7] The STB has estimated that "shippers' litigation costs in recent Full-SAC cases have approached $5 million" and cited with approval an estimate that "even a Simplified-SAC presentation would likely cost up to $1 million to litigate."[8] These estimates do not include the corresponding costs incurred by the defendant railroads and the STB. The reason for this is straightforward: given the huge amounts of money at issue, both sides in a rate case have the incentive to add increasing layers of complexity to the inherently uncertain exercise of simulating the costs of a SARR – so long, of course, as each layer added either adds to or subtracts from the costs, as desired – and thus to dissipate rents.

It is worth quoting at length from an STB decision that describes the degree of detail involved in this exercise (and note that the STB is simply stating the facts here, not arguing that the degree of detail is excessive).

> To make a SAC presentation, a shipper designs a hypothetical new carrier (a stand-alone railroad, or SARR) that is specifically tailored to serve an optimum traffic group with the optimum physical plant (rail system) needed for that traffic. Projected traffic volumes, operating speeds, and traffic densities must be calculated to determine the requirements for locomotives, cars, and train operating

[5] *Ibid.* at 7, emphasis added.
[6] *BNSF Railway v. STB*, U.S.C.A. (D.C. Circuit) No. 06-1372, May 20, 2008.
[7] *Consolidated Rail Corp. v. U.S.*, 812 F.2d 1444 (3d Cir. 1987), at 1463 (Becker, J., concurring in part).
[8] *Simplified Standards for Rail Rate Cases*, STB Ex Parte No. 646 (Sub-No. 1), September 4, 2007, at 5. See also Gaskins (2008).

> personnel. A detailed operating plan must be developed to further define the physical plant that would be needed for the SARR. For example, roadway must be sufficient to permit the attainment of the speeds and density that are presumed. The length and frequency of passing sidings must be able to accommodate the specific train lengths and frequency of train meets that are assumed, and traffic control devices must be designed to allow trains traveling in opposite directions on the same track to be handled safely and efficiently based on the density and congestion assumed in the operating plan.[9]

At this point,

> These plans are used to compute the total investment and operating costs that would be incurred by the SARR and would need to be recovered by it. To be fully viable, a SARR would have to generate sufficient revenues to cover its investment costs, the cost of funds tied up during the construction period, operating expenses, tax liabilities, and a reasonable return on investment.[10]

In the case whose STB decision was just quoted, the shipper posited a SARR of 1400 route miles, traversing five states, connecting coal mines in the Powder River Basin of Wyoming with eleven coal-fired power plants in four states. The SARR was even given a name: the West Texas Railroad. Not to be outdone, another shipper created a 3000-mile SARR, dubbed the Overland Railroad, extending "from Portland, OR to Chicago, IL and Kansas City, MO, with a 375-mile extension into the Powder River Basin (PRB) coal fields."[11] In that case the STB decision Appendix describing the SARR configuration, operating plan, and revenue analysis runs to almost 100 pages.

Evidence with this degree of complexity inevitably invites further regulatory dispute and litigation over a seemingly endless list of details regarding the configuration, costs, and revenues of the hypothetical SARR. Among the issues litigated have been the following:

- Whether a one-year, ten-year, or twenty-year SAC analysis is most appropriate;[12]
- Since the SAC analysis may include twenty years of future SARR operations, whether expected average productivity improvements in freight railroads generally should be applied without adjustment to the SARR, or whether, since the SARR would be *ex hypothesi* newly built and so at the frontier of productivity, whether such industry-wide improvements should be factored in only gradually (and if gradually, how gradually);[13]

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[9] *West Texas Utilities Company v. BN Railroad*, 1 S.T.B. 638 (1996), at 13-14 (parentheses in original).
[10] *Ibid.* at 14 (footnotes omitted).
[11] *FMC Wyoming Corporation and FMC Corporation v. Union Pacific Railroad*, STB Ex Parte No. 346 (Sub-No. 29A), May 10, 2000.
[12] *Major Issues in Rail Cases*, at 61-66.
[13] *BNSF Railway v. STB* (2008).

- Whether "a shipper hypothesizing costs in a joint rate case may ... rely on the trackage rights that one defendant railroad ... holds over track belonging to a second defendant railroad;"[14]
- How to allocate the hypothetical rates paid by hypothetical traffic that travels partly over the SARR and partly over existing lines of the defendant railroad between the two parts of the routing;[15]
- Whether train "dwell times" at points of traffic interchange should be assumed to be 30 minutes, 45 minutes, 60 minutes, or 90 minutes;[16] and
- When new information becomes available – as it does inevitably for a ten- or twenty-year (hypothetical) forecast – "whether we [the STB] can continue to examine the reasonableness of the challenged rate within the framework of the prior SAC analysis (i.e., in a reopened proceeding), or whether we should instead vacate the rate prescription and dismiss this proceeding so that a new and different SAC analysis can be presented in a new proceeding."[17] The decision quoted was written in 2007 and concerned an STB ruling made in 1996.

It goes without saying that a process such as this one is plagued with both problems of asymmetric information and the resulting incentives and ability to pick and choose among such information in order to further one's own agenda. As Heald (1996) points out:

> In cases where there are no incontrovertible technical answers, participants in the policy process (dominant incumbents, potential entrants, consumers, regulators and governments) may have strong economic incentives to support particular technical solutions to the cost allocation problem, for reasons which are demonstrably congruent to their economic interest.

In 1996, Congress directed the STB to "establish a simplified and expedited method for determining the reasonableness of challenged rail rates in those cases in which a full stand-alone cost presentation is too costly, given the value of the case."[18] When no cases were brought under the "simplified guidelines" issued by the STB in response, the STB in 2006 created "a simplified stand-alone cost (Simplified-SAC) procedure to use in medium-size rate disputes for which a full stand-alone cost (Full-SAC) presentation is too costly, given the value of the case" and refined "the 'Three-

[14] Arizona Electric Power Cooperative v. STB, U.S.C.A. (D.C. Circuit), No. 05-1136, July 18, 2006, at 2; see also *Pennsylvania Power & Light Co. vs. Consolidated Rail Corp*, Decision, ICC Docket No. 38186S, July 24, 1984.
[15] *Ibid.* at 24-39.
[16] *Western Fuels Association and Basin Electric Power Cooperative v. BNSF Railway*, Decision, STB Docket No. 42088, February 17, 2009, at 17-18.
[17] *West Texas Utilities Company v. BNSF Railway Company*, STB Decision, Docket No. 41191, September 2007, at 7.
[18] 49 U.S.C. 10701(d)(3).

Benchmark' method of [the] *Simplified Guidelines* ... for small rate disputes for which even a Simplified-SAC presentation would be too costly, given the value of the case."[19]

Such refinements, however, seem only to highlight the importance of a set of more fundamental questions. When does a stand-alone cost presentation become "too costly" – not "given the value of the case" but given its contribution to an efficient and/or equitable outcome to a rate dispute? Where did the stand-alone-cost test come from, and to what degree do its analytical origins and foundations justify the importance granted it by the STB – not to mention the resulting expenditures of real resources on its use by shippers, carriers, and the STB – in large rate disputes? How much justification is there for the STB's stated view that "the SAC test, which judges the reasonableness of a challenged rate by comparison to the rate that would prevail in a competitive market, rests on a sound economic foundation...."?[20] As we will see, the answers to these questions are not reassuring.

The Origins

Where did the stand-alone-cost test come from? The ICC decision that introduced CMP, *Coal Rate Guidelines, Nationwide*, places its origins squarely within the concept of contestable markets:

> Two economic theories are central [to] Constrained Market Pricing – differential pricing and the contestability of markets. They provide the analytical basis for determining those costs for which a shipper may properly be charged and the extent to which the shipper should bear the costs.... Our use of SAC introduces the competitive standard of contestability into a non-competitive market. The stand-alone cost, as we define it here, approximates the full economic costs, including a normal profit, that need to be met for an efficient producer to provide service to the shipper(s) identified.[21]

Similarly, an appeals court decision notes that "the SAC test ... [is] rooted in the concept of contestable markets...."[22]

In turn, the *locus classicus* for market contestability, Baumol, Panzar, and Willig (1982, hereinafter BPW), credits the concepts of stand-alone cost and the stand-alone-cost test to the classic paper by Faulhaber (1975).[23] So it is to that paper that we turn first.

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[19] *Simplified Standards for Rail Rate Cases*, STB Ex Parte No. 646 (Sub-No. 1), September 4, 2007, at 4.

[20] *Ibid.* at 13.

[21] *Coal Rate Guidelines, Nationwide*, at 5, 9.

[22] *PPL Montana v. STB*, U.S.C.A. (D.C. Circuit) No. 04-1369, February 17, 2006, at 9.

[23] See also Sidak (2007): "The stand-alone cost test and the related incremental cost test are two standard methods in the economics of regulation for detecting the presence of cross-subsidy. Gerald Faulhaber formally proposed both tests as a part of an economic framework developed for cross-subsidization analysis in a classic 1975 article." (p. 35; emphasis and footnotes removed)

Faulhaber addresses "the problem of pricing commodities produced in the presence of common costs by a publicly owned or regulated enterprise." He notes that

> the economics literature has by and large focused on the *efficiency* of such commodity prices [he is referring here mainly to the literature on Ramsey pricing]whereas public policy makers are also concerned about more loosely defined questions of *equity*: does a proposed price structure for the multicommodity enterprise "unduly" favor the consumers of one commodity at the expense of the purchasers of another commodity, i.e., does the price structure result in cross-subsidy? (p. 966; emphasis added)

Faulhaber proceeds to argue that

> As a first approximation, we may use this intuitively appealing notion as the basis for a definition: If the provision of any commodity (or group of commodities) by a multicommodity enterprise subject to a profit constraint leads to prices for the other commodities no higher than they would pay by themselves, then the price structure is *subsidy-free*. (p. 966; emphasis in original)

This "intuitively appealing notion" might seem to suggest a "fairness" argument, but Faulhaber quickly backs away from this line of thinking. First he notes that "we [are not] entitled to assume that such [subsidy-free] price structures are morally superior to their subsidy-prone fellows on grounds of social justice" (p. 967); then in a footnote he explicitly and forcefully contrasts his own analysis reported in this paper with that of other papers that recommend a certain method of setting prices in public enterprises "on the basis of its purported 'fairness' and 'equity'."[24]

In fact Faulhaber's reasoning is based unambiguously on what BPW will term "sustainability". His game-theoretic analysis asks the question: what is the highest price that a profit-constrained, multiproduct monopolist may charge a particular group of customers without giving that group the incentive to break away and engage in self-supply? This priceis the stand-alone cost, the cost that such a group would have to pay to supply itself only:

> In this paper, the emphasis is not on finding a unique set of prices which is "fair", but rather on determining a set of prices, all of which are subsidy-free, and ... provide the appropriate incentives for consumer groups to seek the most efficient means of supply in the presence of joint production. (p. 970, fn. 13)

If any prices are set above this level – above stand-alone cost – some group of customers will have the incentive to "go it alone," even though "the single supplier is the uniquely

[24] Thus Borrmann and Zauner (2004) seem to be simply incorrect when they argue that "There is a fundamental ambiguity in Faulhaber's (1975) concept. Is cross-subsidy about fairness or about market entry?" (p. 246, fn. 1)

most efficient production arrangement" (p. 968). Indeed, if the regulator insists upon setting prices above the stand-alone cost level,

> Then the coercive authority of the government must be employed to restrict or prohibit entry into the market. Thus, even when the public enterprise enjoys increasing returns to scale, if the regulators adopt a pricing policy of subsidization as we have defined, entry must be restricted. (p. 972)

Again, Faulhaber emphasizes that "prices which are subsidy-free do not necessarily promote the common weal or bring about social justice." Furthermore,

> there is no a priori reason to expect that prices which maximize welfare subject to a break-even constraint [i.e., Ramsey prices] will necessarily be subsidy-free.... Since quasi-optimal prices depend on marginal costs and demand elasticities, whereas the constraints defining subsidy-free prices depend on the costs of alternative means of supply, it is no surprise that the two ideas are not necessarily compatible. (p. 973)

Thus Faulhaber. When BPW take up Faulhaber's concept of stand-alone cost, it is once again with an emphasis on the prevention of inefficient entry:

> Prices cannot be sustainable if they involve any cross subsidy.... Quite simply, if the revenues collected from the sale of a subset of products ... exceed the cost of providing the same quantity of those products independently, a profitable entry opportunity is offered to anyone willing to supply the same bundle at a slightly lower price and, in a perfectly contestable market, entry will occur.... Equilibrium in perfectly contestable markets requires that the revenues earned on any part of the total output of the industry be no more than the stand-alone production cost of that part. (pp. 351-52 and 354)

A near-simultaneous verified statement by Baumol and Willig also cites the classic treatise by Kahn in support of this test, and Kahn is specifically discussing "cream skimming" – the question of whether prices higher than stand-alone costs (he does not use this term yet) might attract inefficient entry and so threaten sustainability.[25]

Besides emphasizing sustainability, however, BPW are arguably a bit more willing than Faulhaber to venture into normative grounds:

> Condition (12D1) has been referred to by Faulhaber ... and others as the stand-alone cost test, and failure to pass it indicates that the set of services ... *is in a significant sense subsidizing* the remaining set of the firm's products. This is true because, at current prices, the users of these services will then be paying more than it would cost a separate firm to provide only those products at their current levels. (p. 352; emphasis added; original emphasis removed)

[25] Baumol and Willig (1981), at 74; Kahn (1970), at II:220-224.

Again,

> When the monopoly market is not perfectly contestable, regulation may be desirable; but regulatory policy *should* then be designed, insofar as possible, to replicate the results of a contestable market. (p. 355; emphasis added)

Thus BPW. According to Faulhaber and BPW, the stand-alone-cost test is motivated and justified mostly by concerns for the sustainability of the natural monopoly in the face of potential inefficient entry. In addition, it may suggest that certain Ramsey prices are cross-subsidizing other prices and are thus in some sense unfair. Not surprisingly, there is not much foundation laid for the fairness argument, and Heald's (1996) evaluation seems on the mark in this respect:

> The academic literature on cost allocation is overwhelmingly normative in design and prescriptive in its conclusions. How to allocate common costs is an intellectually fascinating problem, in answer to which it is possible to engage in sophisticated modeling and mathematical analysis. Perhaps the fundamental question to be asked about these solution algorithms relates to why decision-makers should find compelling the particular value judgments which underpin particular solutions. The algorithms, however elegant, often have little in terms of behavioral or motivational underpinnings.

Evaluation

Let us review the bidding up to this point. According to the scholarly works upon which the STB has based its rulings, the application of a stand-alone-cost test to rates charged to customers of a monopolist constrained to earn zero economic profits insures that, in a contestable market, costly and inefficient entry does not take place. In addition, at least one of these works seems to entertain the idea that the stand-alone-cost test guards against such a monopolist unfairly forcing one group of customers to cross-subsidize another group of customers.

This would suggest the relevance of a few questions regarding the choice by the STB to use stand-alone-cost tests to evaluate rates charged to "captive" freight rail shippers.

First, are freight railroad companies in the U.S. constrained to earn zero economic profits?[26] No, they are not: the "revenue adequacy constraint" referred to above means that once firm-wide economic profits exceed the estimated cost of capital, the STB may regulate the rates charged to captive shippers, but that fact is (obviously) not the same as a regulatory constraint on company profits. In fact, a large-scale study recently

[26] The principal reason for the importance of this question is the showing by both Faulhaber and BPW that in the presence of a zero profit constraint and under the assumption of efficient operations, if one group of shippers is paying more than SAC, it necessarily follows that some other group is paying less than its incremental cost – i.e., is being subsidized. See, e.g., Faulhaber (1975), BPW, Lenard, *et al.* (1992), and Meitzen and Larson (1992).

commissioned by the STB concludes that the U.S. Class I railroads are now near or at the point of earning economic profits (Christensen Associates, 2008). And yet, in a recent paper that evaluates the experience of regulatory application of the concepts in Faulhaber (1975), Faulhaber (2005) notes that

> In non-regulated enterprises, the norm would be that total revenues would at least equal and possibly exceed total economic cost.... The focus of cross-subsidy analysis shifts entirely to the IC [incremental cost] tests. *The SAC tests are not helpful under conditions of positive economic profits.* (emphasis added)

Second, is the railroad industry contestable? Of course not: a necessary (but not sufficient) requirement for contestability of an industry is that "entry is absolutely free and exit absolutely costless,"[27] and the *Coal Rate Guidelines, Nationwide*, freely concede that "the railroad industry is recognized to have barriers to entry and exit and thus is not considered contestable for captive traffic."[28] (The last three words seem unnecessary.) The STB statement that its "use of SAC introduces the competitive standard of contestability into a non-competitive market"[29] has a reasonable sound but does not really explain why such an exercise is in any sense welfare- or efficiency-enhancing.

One possible path out of this particular conundrum might be the insight of Tirole (1988) that "the theory of contestable markets can ... be seen as a generalization of Bertrand competition to markets with increasing returns to scale." There is some limited support in the empirical literature for Bertrand competition as the duopoly outcome of railroads shipping coal from the Powder River Basin (Winston, *et al.*, 2007). As Grimm (2008) points out, language in the most recent STB merger decisions suggests a possible adoption of this view: "We now believe that rail carriers can and do compete effectively with each other in two-carrier markets."[30] However, this is certainly not the standard finding or assumption, and the STB has not relied on this interpretation of contestability in its SAC discussions.

A second possible path is proposed by Fanara and Grimm (1985), who acknowledge the potentially large gap between rates that might attract actual stand-alone entry and the lower rates that are implied by the hypothetical SARR constructed under a CMP analysis. The former rates, they suggest, would correspond to concerns regarding actual sustainability but would be extremely high, while the latter would thus correspond more closely to concerns regarding fairness.

But this suggests a third question: in the freight railroad sector, is stand-alone-cost analysis an important tool for regulators actually seeking to prevent inefficient entry? This seems quite unlikely: new entry into the freight railroad business in the U.S. has been extremely rare; until fairly recently, the industry has been in a long period of

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[27] *Coal Rate Guidelines, Nationwide*, at 8, quoting testimony by Baumol.
[28] *Ibid.*
[29] *Ibid.* at 9.
[30] *Union Pacific – Control and Merger – Southern Pacific*, STB Finance Docket No. 32760, Decision No. 44, August 6, 1996, at 116-17.

shedding excess capacity. Furthermore, it is entirely in the interest of the incumbent railroad to price in such a way that entry into its territory does not appear attractive. In addition, the STB has the authority to deny applications for new line construction if the presence of the new capacity would "unduly harm existing services."[31]

The single major project for new railroad construction advanced in recent years has been for the construction by the Dakota, Minnesota & Eastern Railroad (DM&E) of a new line into the Powder River Basin, the coal producing area served by the carriers in some of the rate cases cited here. In the lengthy STB proceedings that authorized construction (which has not yet taken place, and may not),[32] the principal participating shippers' group, the Western Coal Traffic League, argued that "access to the PRB by an additional ... rail carrier would assist in mitigating UP's and BNSF's [the current serving carriers] capacity shortcomings, and thereby improve rail service reliability."[33]

The STB decision alludes briefly to the possibility (and relevance) of harm to existing *carriers* as an instance or cause of harm to existing *services*, but the decision does not so much as mention any evidence that the UP and/or BNSF would be significantly harmed by DM&E entry into the PRB – evidence that would seem to be at least related to the sustainability question rather focusing entirely on the seemingly odd issue of whether the magnitude of the proposed investment project and the possibility of its failure might constitute threats to existing service *by the DM&E* to its existing, non-PRB customers.[34] Remarkably, then, in the single major SAC case in which the sustainability issue is at least in principle relevant, the STB decision avoids the issue almost entirely.

Seen from this perspective, the STB statements justifying the use of the SAC test seem more to avoid than to address the questions of economic efficiency and total welfare:

> In sum, our use of SAC introduces the competitive standard of contestability into a non-competitive market. The stand-alone cost, as we define it here, approximates the full economic costs, including a normal profit, that need to be met for an efficient producer to provide service to the shippers identified. This

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31 *Dakota, Minnesota & Eastern Railroad Construction into the Powder River Basin*, STB Finance Docket No. 33407 (3 S.T.B. 847; 1998 STB LEXIS 968) (December 10, 1998), citing 49 U.S.C. 10901(c) and *Tongue River R.R. - Rail Construction & Operation - Ashland to Decker, MT*, STB Finance Docket No. 30186 (Sub-No. 2) (Nov. 8, 1996).

32 See U.S. Federal Railroad Administration, "FRA Administrator Denies DM&E Powder River Basin Loan Application Citing Unacceptable Risk to Federal Taxpayers," February 26, 2007.

33 *Dakota, Minnesota & Eastern Railroad Corporation Construction into the Powder River Basin*, 3 S.T.B. 847 (1998), at 7.

34 *Ibid.*; see also the subsequent STB decision granting approval for construction following investigation of possibly averse environmental impacts, *Dakota, Minnesota & Eastern Railroad Corporation Construction into the Powder River Basin*, 2002 STB LEXIS 74, and the decision granting final approval for construction following court appeal and remand, *Dakota, Minnesota & Eastern Railroad Corporation Construction into the Powder River Basin*, Decision, STB Finance Docket No. 33407, February 15, 2006.

cost calculation produces a simulated competitive price standard against which actual rates can be compared.[35]

> A SAC analysis seeks to determine whether a complainant is bearing costs resulting from inefficiencies or costs associated with facilities or services from which it derives no benefit; it does this by simulating the competitive rate that would exist in a "contestable market."... A SARR is ... hypothesized that could serve the traffic at issue if the rail industry were free of entry barriers.... This analysis produces a simulated competitive rate against which we judge the challenged rate.[36]

We would seem to be left only with arguments for the stand-alone-cost test related to fairness. As I discuss in the companion paper to this one (Pittman, forthcoming), fairness is a perfectly relevant topic for discussion regarding rates charged to captive shippers; in a sector with a high level of fixed and sunk costs, there is no single, optimal way to set rates for full cost recovery.[37] Particularly once the railways are earning their cost of capital – as they are now, arguably – any increase in rates to the railroads (part of which goes to stockholders, but part of which goes to labor, and part to maintaining and improving capacity, including new and expensive statutory requirements for the installation of Positive Train Control equipment) comes at the expense of coal mine owners and labor and investment, electric utilities, and electricity rate payers (and customers of commercial rate payers).

What is the right mix of charges to those diverse groups? Rates set at "what the market will bear" economize on judicial and regulatory costs and fund railroad investment. Rates constrained to be below that level leave more resources in the hands of the coal and electricity industries and electricity customers. Ramsey prices achieve revenue adequacy at a minimum cost to total welfare, but customers with the fewest economic alternatives may pay very high – even "unfair", even "cross subsidizing" – rates. Even Ramsey prices constrained by SAC analysis leave shippers – by definition – with zero share of the economies of scope of the overall railway enterprise. We have not even touched on the question of environmental externalities: whether, as complainants argued in the DM&E matter before the STB, lower rates for shipping coal may be a *bad* thing if they encourage the construction of more coal-fired power plants and the consumption of more electricity.[38] Large sums of money are at stake here, and political resolutions may be inevitable.

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[35] *Coal Rate Guidelines, Nationwide*, at 9.
[36] *Major Issues in Rail Rate Cases*, at 7. See also Freeman (1984), who asks why, "where competition does not exist, it is [reasonable] to define maximum rate levels on the basis that nonexistent competition will keep them reasonable."
[37] See also the more basic microeconomic presentation in Pittman (2004).
[38] See especially *Mid States Coalition for Progress vs. STB*, 345 F.3d 520 (8th Cir. 2003) and *Dakota, Minnesota & Eastern Railroad Corporation Construction into the Powder River Basin*, Decision, STB Finance Docket No. 33407, February 15, 2006.

What seems clear, however, is that a focus on the best level of the rates themselves is much to be preferred to a lengthy and expensive examination of various cost issues that – as I have argued in this paper – are not obviously relevant to the desirability of the rates themselves. Whatever is the fairest or best or most equitable way to divide the available quasi-rents among various claimants, it would seem to have extremely little to do with the choices of rules for introducing expected productivity improvements or for cost sharing on two sections of track on a hypothetical railroad over a twenty year period in the future – or with any of the other myriad of complex and expensive details that constitute the stand-alone-cost test as it is implemented in the context of U.S. freight rail regulation. Meitzen and Larson (1992) generalize this point:

> The real issue in question is often the pricing of services, not their costs. In other words, it is believed that the prices of particular services should be above or below some level, or that they should be higher or lower. These beliefs are often supported by allocating shared costs in some manner (including ... SAC) which "proves" the prices in question are the correct ones.... In such instances, it would be more fruitful to phrase the debate directly in terms of prices and not camouflage the real issue with debates over arbitrary "costs."

Surely a simpler, more straightforward, and above all cheaper way could be chosen to protect "captive" shippers. As I suggest in the companion paper to this one (Pittman, forthcoming), one possibility would be a ceiling on the price-to-variable-cost ratio – corresponding to the floor on this ratio below which the STB lacks jurisdiction to challenge rates – that would, like the stand-alone-cost test, act as a constraint on the degree to which Ramsey pricing is permitted. In fact the STB imposed exactly such a rate ceiling as a remedy in a recent matter where the shipper was able to demonstrate that the rates it had been paying had been greater than SAC.[39] Alternatively, the literature on incentive regulation (Laffont and Tirole, 2000; Joskow, 2005) might be a fruitful source of ideas.

[39] *Western Fuels Association and Basin Electric Power Cooperative v. BNSF Railway (2009), supra* note 16. *See also* the similar ceiling imposed in *West Texas Utilities Company v. BN Railroad (1996), supra* note 9.

References

Baumol, William J., and Robert D. Willig, "Verified Statement," III Ex Parte No. 347 (Sub-No. 1), *Coal Rate Guidelines – Nationwide*, May 11, 1981.

_____, John C. Panzar, and Robert D. Willig, *Contestable Markets and The Theory of Industry Structure*, New York: Harcourt Brace Jovanovich, 1982.

Borrmann, Jörg, and Klaus G. Zauner, "Cross-subsidization when Firms Are Allowed to Make Non-zero Profits," *International Journal of the Economics of Business* 11 (2004), 241-247.

Christensen Associates, *A Study of Competition in the U.S. Freight Railroad Industry and Analysis of Proposals that Might Enhance Competition*, prepared for the Surface Transportation Board, November 2008.

Fanara, Philip, Jr., and Curtis M. Grimm, "Stand-Alone Cost: Use and Abuse in Determining Maximum U.S. Railroad Rates," *Transportation Research-A* 19A (1985), 297-303.

Faulhaber, Gerald R., "Cross-Subsidization: Pricing in Public Enterprises," *American Economic Review* 65 (1975), 966-77.

_____, "Cross-Subsidy Analysis with More than Two Services," *Journal of Competition Law and Economics* 1 (2005), 441-448.

Freeman, James W., "The Ties That Bind: Railroads, Coal, Utilities, the ICC, and the Public Interest," *Transportation Law Journal* 14 (1984), 1-38.

Gaskins, Darius W., Jr., "Regulation of Freight Railroads in the Modern Era: 1970-2010," *Review of Network Economics* 7 (2008), 561-572.

Grimm, Curtis M., "Merger Analysis in the Post-Staggers Railroad Industry," in P. Carstensen and B. Farmer, eds., *Competition Policy and Merger Analysis in Deregulated and Newly Competitive Industries*, Cheltenham, UK: Edward Elgar, 2008.

Heald, David, "Contrasting approaches to the 'problem' of cross subsidy," *Management Accounting Research* 7 (1996), 53-72.

Joskow, Paul L., "Incentive Regulation in Theory and Practice: Electricity Distribution and Transmission Networks," working paper 05-18, AEI-Brookings Joint Center for Regulatory Studies, September 2005.

Kahn, Alfred E., *The Economics of Regulation: Principles and Institutions*, New York: Wiley, 1971.

Laffont, Jean-Jacques, and Jean Tirole, *Competition in Telecommunications*, Cambridge, MA: MIT Press, 2000.

Lenard, Thomas M., Monica M. Bettendorf, and Stephen McGonegal, "Stand-Alone Costs, Ramsey Prices, and Postal Rates," Journal of Regulatory Economics 4 (1992), 243-262.

Meitzen, Mark E., and Alexander C. Larson, "The uses and abuses of stand-alone costs," *Utilities Policy* 2 (1992), 135-148.

Pittman, Russell, "Russian Railways Reform and the Problem of Non-Discriminatory Access to Infrastructure," *Annals of Public and Cooperative Economics* 75 (2004), 167-192.

______, "The Economics of Railroad 'Captive Shipper' Legislation," *Administrative Law Review* 62 (forthcoming).

Sidak, J. Gregory, "Declaration" before the U.S. Federal Trade Commission, Postal Service Study, Project No. P071200 (n.d.; 2007?), at 35.

Tirole, Jean, *The Theory of Industrial Organization*, Cambridge, MA: MIT Press, 1988.

Winston, Clifford, Scott M. Dennis, and Vikram Maheshri, "Duopoly Equilibrium Over Time in the Railroad Industry," unpublished paper, September 2007.