**BEFORE THE**

**SURFACE TRANSPORTATION BOARD**

238991
238992

ENTERED
Office of Proceedings
August 6, 2015
Part of
Public Record

Ex Parte No. 722

RAILROAD REVENUE ADEQUACY

Ex Parte No. 664 (Sub-No. 2)

PETITION OF THE WESTERN COAL TRAFFIC LEAGUE TO INSTITUTE A RULEMAKING PROCEEDING TO ABOLISH THE USE OF THE MULTI-STAGE DISCOUNTED CASH FLOW MODEL IN DETERMINING THE RAILROAD INDUSTRY'S COST OF EQUITY CAPITAL

# Post-Hearing Comments

submitted by the

# CONCERNED SHIPPER ASSOCIATIONS

Jeffrey O. Moreno
Thompson Hine LLP
1919 M Street, N.W., Suite 700
Washington, DC 20036
(202) 263-4107

*On Behalf of:*
American Chemistry Council
The Fertilizer Institute
The Chlorine Institute
The National Industrial Transportation League

**Dated:** August 6, 2015

**FILING CONTAINS COLOR IMAGES**

## I. INTRODUCTION AND EXECUTIVE SUMMARY

Pursuant to the decision of the Surface Transportation Board ("STB" or "Board") served July 29, 2015 in the above captioned dockets, the Concerned Shipper Associations ("CSA")[1] hereby submit post-hearing comments to supplement, expand upon, and respond to issues that arose during the two-day public hearing held by the Board on July 22-23, 2015. These post-hearing comments address the following six issues:

1. Explain the concept of economic deadweight loss and its relationship to Ramsey pricing and the revenue adequacy constraint. As part of the CSA testimony on July 23rd, Dr. Kevin Caves introduced the concept of economic deadweight loss, which Ramsey pricing is intended to minimize. Dr. Caves received multiple questions from the Board seeking to understand this concept in greater detail. Through these comments, Dr. Caves responds to those questions beyond what he was able to do during the hearing.
2. Respond to criticisms of the Yardstick approach to implementing the revenue adequacy constraint. Several economists testifying on behalf of the rail industry, while acknowledging the legitimate economic foundations of the Yardstick approach proposed by Dr. Caves, and also recommended by the Transportation Research Board ("TRB"), nevertheless levied several criticisms that they contend make this approach unworkable. These comments respond to those criticisms and suggest how the Board can develop objective standards to identify the competitive traffic used in the Yardstick model.

---

[1] The Concerned Shipper Associations are the American Chemistry Council, the Chlorine Institute, The Fertilizer Institute, and the National Industrial Transportation League.

3. Explain how and why the Rebate approach to implementing the revenue adequacy constraint does not constitute rate-of-return regulation. The rail industry witnesses uniformly criticized the rebate approach as "rate-of-return" regulation at the hearing. Due to time constraints, the CSA were unable to thoroughly talk the Board through their two versions of the Rebate approach to address those criticisms. These comments, along with Exhibits 1 through 3, provide a more complete illustration.

4. Explain the lawfulness of the rate freeze concept. Both the Allied Shippers and the CSA proposed to limit rate increases for captive traffic on a revenue adequate rail carrier. These comments address questions as to whether this concept is consistent with the ICC Termination Act ("ICCTA") and the burden of proof imposed upon Complainants by the Administrative Procedure Act ("APA").

5. Respond to statements regarding the impact of "The Surface Transportation Board Reauthorization Act of 2015," S.808, upon the Board's annual revenue adequacy determination. At the hearing, the Association of American Railroads ("AAR") claimed that S.808, if adopted, expresses Congressional intent that the Board use replacement cost accounting to determine revenue adequacy. These comments refute that claim.

6. Demonstrate that the Board's existing revenue adequacy measure has proven to be a conservative indicator of the rail industry's actual ability to attract investment from capital markets. Dr. Caves exposes a fundamental contradiction in railroad claims that the current measure optimistically overstates the rail

industry cost-of-capital even while the industry has attracted hundreds of billions of dollars of investment in recent years and decades.

## II. Deadweight Loss and Ramsey Pricing

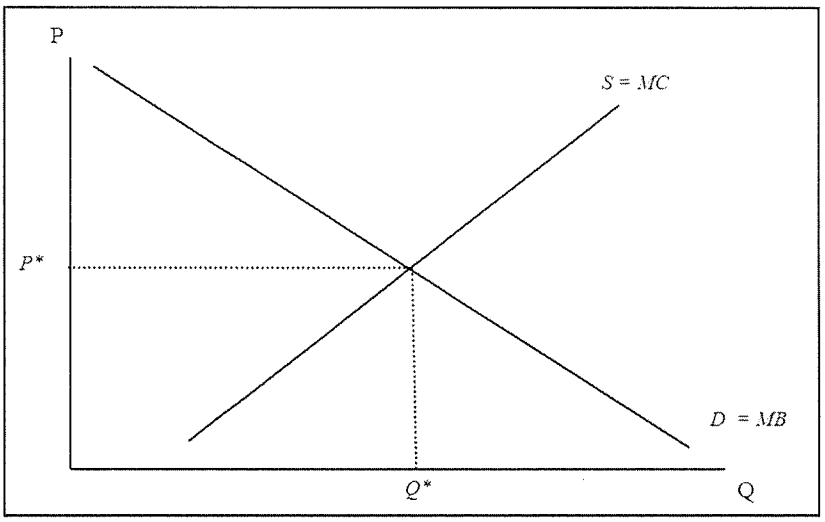
Deadweight loss is fundamental to the concept of economic efficiency and Ramsey pricing principles. Deadweight loss represents the loss in economic efficiency that results when the quantity of a good or service is artificially restricted in order to raise its price; it is "the pure waste induced by an increase in price above the efficient level."[2] Competitive markets minimize or eliminate this deadweight loss because competition places constraints on any single competitor's ability to raise price above marginal cost: No participant in a competitive market can raise the market price by artificially restricting supply, because another participant would respond by increasing supply to satisfy demand at the competitive price. In non-competitive markets, however, a dominant firm can restrict supply in order to increase the price it charges to a level that maximizes that participant's profitability, at the expense of economic efficiency, because the threat that a competitor would enter the market to supply the excess demand at the competitive price is negligible.

Economic efficiency is maximized when the marginal benefit (*MB*) of a good or service—the amount that someone is willing to pay for it—is just equal to the marginal cost (*MC*) of producing the good or service. In the diagram below, the marginal benefit is represented by the downward-sloping demand curve, *D*, and the marginal cost is represented by

---

[2] Michael L. Katz and Harvey S. Rosen, Microeconomics, 3rd ed. (Boston: Irwin McGraw-Hill, 1998), at 113-114. *See also* W. Kip Viscusi, John M. Vernon, & Joseph E. Harrington, Economics of Regulation and Antitrust, (MIT Press 2nd ed. 1996), at 74-78.

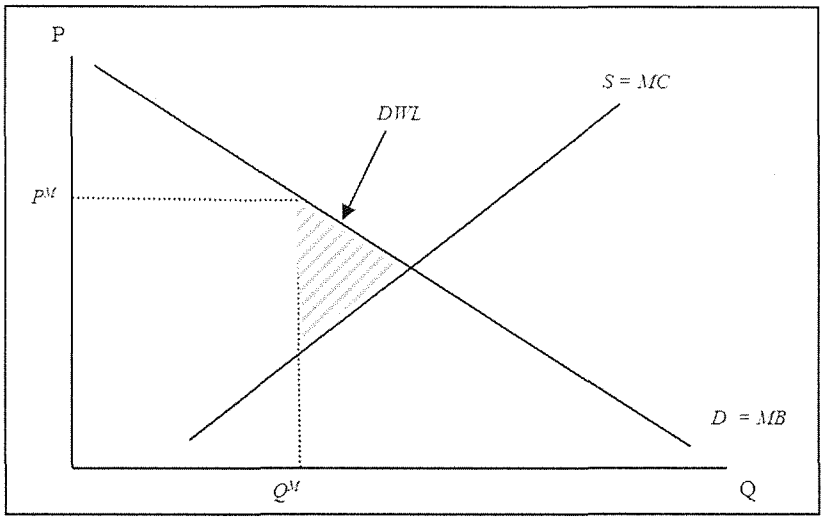
the upward-sloping supply curve, $S$.[3] The economically efficient quantity bought and sold in the market $Q^*$, will be achieved if a competitive price of $P^*$ is charged, with $P^* = MC$. At this price, the product will always be sold as long as the benefit to the customer exceeds the cost of supplying the product.




If a market distortion is introduced that causes the quantity bought and sold to fall below $Q^*$, there will be deadweight loss. For example, suppose that a monopolist raises the price from $P^*$ to $P^M$ in order to increase its profits. As seen below, this drives a wedge between supply and demand, and forces the quantity bought and sold to fall to a lower level, $Q^M$. The shaded triangle, labeled *DWL*, represents the economic inefficiency induced by the monopolistic price increase. Deadweight loss arises because there are many customers that would be willing to pay more than the cost of supplying the product, but are unable to obtain the product under monopoly pricing.

---

[3] In the railroad industry, the marginal cost curve would be downward-sloping due to economies of scale. This technicality does not alter fundamental conclusions of the analysis, and is ignored here for ease of exposition.




Owing to high fixed costs, economies of scale, and economies of scope, an enterprise such as a railroad must set its prices above its marginal costs in order to remain revenue adequate—that is, in order to cover all fixed costs, incremental costs, and the cost of attracting sufficient investment. (If the railroad were to set price equal to marginal cost, it would recover insufficient revenue to cover all of its costs. This is due to the fact that marginal cost is less than average cost in such an industry). Accordingly, some degree of deadweight loss is unavoidable. The objective of Ramsey pricing is simply to minimize this deadweight loss, by adjusting prices downward towards costs when possible, while still keeping prices sufficiently above marginal costs to satisfy revenue adequacy.[4] All of this implies that there is substantial scope for enhancing the economic efficiency of pricing to captive shippers by lowering prices towards marginal costs while still maintaining revenue adequacy.

---

[4] Verified Statement of Kevin Caves and Hal Singer *STB Ex Parte No. 722 (Railroad Revenue Adequacy), Reply Comments of Concerned Shipper Associations* – Appendix B (November 4, 2014), at 1-2; 11-12; 17 - 20. *See also* W. KIP VISCUSI, JOHN M. VERNON, & JOSEPH E. HARRINGTON, ECONOMICS OF REGULATION AND ANTITRUST, (MIT Press 2nd ed. 1996), at 364-367.

## III. YARDSTICK CRITICISMS

The first of two alternative approaches offered by the CSA for implementing the revenue adequacy constraint is the "Yardstick" approach, which also has been referred to by the TRB as the "Benchmark" approach. As explained at pages 8-15 of the CSA's "Consolidated Hearing Testimony," filed July 20, 2015, the Yardstick approach uses statistical methods to predict the rate that a captive shipper would pay if its shipments were subject to more intense competition. It employs a statistical model to quantify the relationship between the rates and movement characteristics of competitive traffic. Once the Board has constructed the model, captive shippers could use it to compare their actual rates with the rates paid in competitive markets. The model would estimate a competitive rate level for the challenged movement. The Board then would judge the reasonableness of the challenged rate based upon a pre-determined margin above the estimated competitive rate. In order to preserve the appropriate level of differential pricing needed to maintain the rail carrier's revenue adequacy, if any, the Board could prescribe a rate at a threshold level above the estimated competitive rate. Whatever the results of the regression model ultimately adopted, the Board could always calibrate this threshold to target rate relief to the subset of captive shippers that is most likely subject to unreasonably high rates, without jeopardizing a railroad's revenue adequacy.

The railroad industry economic witnesses at the hearing were not as dismissive of the Yardstick concept from an economic perspective as they were of the Rebate approach also offered by the CSA and discussed in the next section. Nevertheless, they leveled certain criticisms that they contend render the Yardstick approach infeasible and urge the Board to adhere strictly to Stand-Alone Cost, or "SAC." While the Yardstick approach will require some up-front effort by the Board and its stakeholders to develop a working econometric model, unlike SAC, the use and updating of the model will be quite simple thereafter. Moreover, SAC

itself is far from perfect or ideal in its implementation, whether it be Full-SAC or Simplified-SAC. Yet, those imperfections have not precluded the Board from using SAC, or the rail industry from labeling SAC as the "gold standard." This section responds to the primary railroad criticisms of the Yardstick approach and suggests procedures that the Board could follow to develop the Yardstick econometric model.

Economists retained by the railroads have suggested that the yardstick (or "benchmark") approach would be complicated by differences between the costs of serving competitive routes and the costs of serving captive routes. They suggest that implementation of the benchmark approach would require a SAC-style analysis to account for systematic differences in the cost structures underlying captive and competitive shipments. This line of argument is unpersuasive for several reasons.

First, the well-credentialed economists at the TRB voiced no such objection to adopting the benchmark method; indeed, adoption of the benchmark method for identifying potentially unreasonable rates is one of the TRB's primary recommendations.[5] The TRB even constructed a prototype version of a "statistical model for identifying freight rail rates that are unusually high compared with rates for comparable traffic established under competitive conditions."[6]

Second, and relatedly, reverting to SAC-style analyses would re-introduce all of the practical and conceptual problems of the SAC approach, which have been highlighted by the TRB and throughout this proceeding.[7]

---

[5] Transportation Research Board of the National Academies, *Modernizing Freight Rail Regulation,* Special Report 318 (2015) at 3.

[6] TRB Report at viii; see also Appendix B.

[7] TRB Report at 3-4; Caves & Singer, *supra*, Part I.B; Part II.B.

Third, regression models such as those proposed by the TRB are attractive precisely because they can explicitly, systematically, and transparently control for factors that influence pricing, including cost drivers. For example, because a railroad's costs per ton-mile are likely influenced by the distance and size of its shipments, such factors would likely be included in the regression model. The regression model could also incorporate detailed cost variables from URCS, as well as publicly available cost data (e.g., energy costs or labor costs).[8]

Although it is true that a "competitive rate benchmarking method cannot control for all factors that may legitimately affect rate levels,"[9] this is not a reason to abandon benchmarking altogether, as the TRB correctly recognized.[10] As the TRB observed, the benchmark approach provides valuable information regarding the likelihood that the rates paid by a given captive shipper reflect the exercise of market power:

> No model based on real data ever fits perfectly, and prediction errors will cause many tested rates to exceed their predicted competitive benchmark levels...The reason is that the data cannot include all of the economically meaningful characteristics of a shipment that may affect its rate. However, the larger the excess, the greater the likelihood that unobserved characteristics and prediction error alone are not the cause and that the exercise of market power is a contributing factor.[11]

Taken at face value, the claims of the railroads' economists imply that benchmarking techniques would have to be abandoned by the economics profession, since any given set of benchmarks will always differ at least somewhat from the group to which it is compared. This would, of course, eliminate any errors that the benchmark approach might introduce—but only

---

[8] Variables from URCs could be evaluated based on a statistical assessment of their relevance to pricing. For example, if car-mile costs were found to be a statistically significant determinant of pricing, then this variable could be included in the benchmark model.

[9] TRB Report at 4.

[10] TRB Report at 3-4.

[11] TRB Report at 135.

at the cost of removing a potentially important constraint on, e.g., the exercise of monopoly power by dominant firms. In reality, benchmarking is widely recognized as providing useful information to regulators, as noted by last year's winner of the Nobel Prize in economics in a seminal textbook on economic regulation.[12] Indeed, at least two of the railroad economists at the hearing, Joseph Kalt and Kevin Murphy, recognized the value of benchmarking in their testimony. Further, the limitations of the benchmark mythology are most acute when only relatively crude comparisons are possible (e.g., firm-wide comparisons among regulated utilities).[13] Yet in the railroad industry, much more detailed, shipment-level comparisons would be utilized, allowing the model to exploit a "wealth of information on unregulated, market-based rail prices"[14] If the benchmark approach can provide meaningful information to regulators even when only relatively crude comparisons are possible, it would certainly be expected to prove useful in the railroad industry, where detailed statistical relationships can be analyzed to make the comparisons more precise.

In addition, Professor Murphy raised another critique of the benchmark model in his testimony, claiming that adoption of the benchmark method would supposedly discourage price-cutting in competitive routes, because doing so would tend to lower the average price of the benchmark route. This critique is without merit, because pricing in competitive routes is, by definition, constrained by competition. Under competitive conditions, a railroad is obliged to adjust its price to the level that the market will bear, and cannot risk foregoing a price cut necessary to win or retain a shipper's business.

---

[12] JEAN-JACQUES LAFFONT & JEAN TIROLE, A THEORY OF INCENTIVES IN PROCUREMENT AND REGULATION 84-86 (MIT Press 1993); see also *Caves & Singer, supra* at 21-22.

[13] *Id.*

[14] TRB Report at 91.

The most challenging aspect of implementing the Yardstick approach will be the identification of rail movements that face meaningful competition to include in the econometric model. For many bulk commodities, such as unit train coal or crude oil movements, the task will be relatively straight-forward because only barge transportation or an alternative rail carrier are feasible options and identifying their presence for individual movements should not be difficult. Similarly, because certain highly hazardous chemicals, such as toxic inhalation hazards, rarely if ever move by truck, rail and barge also are likely to be the only potential indicators of a competitive movement. The challenge arises for those commodities, such as some chemical and plastics shipments, that physically can and do move by truck in some circumstances but not others.

To address these more challenging movements, the Board could initiate one or more formal proceedings (perhaps by commodity) and invite public comment on the movement characteristics that most often are associated with competitive or captive traffic. For example, some commodities that move by truck may do so primarily below certain distances or only when rail is not a viable option. Through notice and comment, the Board could solicit stakeholder input as to such characteristics in order to develop objective standards that are reasonable indicators of a competitive movement. This would involve the same types of evidence that the Board considers in market dominance determinations and commodity exemption proceedings, but the focus would be upon the overall competitive transportation characteristics for a commodity instead of a movement-specific determination. The Board then would be able to apply these standards to identify competitive movements to include in the Yardstick model.

## IV. REBATE APPROACH

At the July 23rd hearing, the CSA presented two versions of a Rebate approach for implementing the revenue adequacy constraint: the Proportional Method and the Maximum Mark-up Method ("MMM"). Consistent with *Coal Rate Guidelines*, the Rebate approach attempts to identify the maximum level of differential pricing of captive traffic, relative to competitive traffic, that is needed to achieve and maintain revenue adequacy, and reduce rates to that level as appropriate.[15] Without even having reviewed the CSA illustrations, the rail industry witnesses criticized the Rebate approach as "rate-of-return" regulation. This is inaccurate. Under true rate of return regulation, regulatory agencies "set the price the utility can charge so as to allow it to earn a specified rate of return—and no more."[16] Yet by the flawed definition advanced by the rail industry witnesses, any form of rate regulation, including SAC, constitutes "rate-of-return" regulation because it restricts revenue. In order to demonstrate the inaccuracies of this claim, the CSA will walk the Board through both versions of the Rebate approach step-by-step in much greater detail than they had time to present at the hearing. In doing so, the CSA will reference three exhibits for which they also are providing the underlying spreadsheets as work papers to allow the Board to view the underlying formulas and to tinker with the Rebate approach as it may desire.

Both versions of the Rebate approach begin with a threshold determination of whether the defendant rail carrier is revenue adequate, which Exhibit 1 illustrates based upon historical data for the Union Pacific Railroad ("UP"). As the CSA have testified in this proceeding, six years is an appropriate time period for measuring revenue adequacy because that represents the

---

[15] *Coal Rate Guidelines*, 1 I.C.C.2d at 535-36.

[16] Ian Alexander and Timothy Irwin, "Price Caps, Rate-of-Return Regulation, and the Cost of Capital," World Bank Group Note No. 87 (September 1996).

duration of the average business cycle since World War II. Exhibit 1, therefore, evaluates the revenue adequacy of UP over the most recent six years of available data, 2009-2014. Column 2 is the STB's determination of the railroad industry cost of capital for each year over this time period.[17] Column 3 shows UP's annual tax-adjusted revenue shortfalls and surpluses, as determined by the STB in its calculation of UP's Revenue Shortfall Allocation Method ("RSAM") ratios.[18] The data in Column 3 shows that UP has generated tax-adjusted surpluses every year, except for 2009. Column 4 adjusts the Column 3 data to 2014 dollar levels in order to calculate the net present value of the surpluses and shortfalls from 2009-2014. Line 7 of Column 4 sums the Column 4 shortfalls and surpluses to determine that UP is revenue adequate because it earned a net surplus of $7,638,319 over the 2009-2014 period.

Exhibit 1, Line 8, also calculates the average annual surplus from 2009-2014 by dividing Line 7 by 6 years, which produces $1,273,053. This figure will transfer to Line 2 in Exhibits 2 and 3, which illustrate the Proportional and MMM versions of the Rebate approach, respectively. Specifically, this figure will be starting point for establishing an upper boundary upon the potential cumulative value of any rate reductions.

---

[17] Since the STB has not issued its 2014 cost of capital decision, the CSA used the AAR's estimate of the 2014 railroad cost of capital. *See* "Comments of the Association of American Railroads and Its Member Railroads" in Ex Parte No. 558 (Sub-No. 18), *Railroad Cost of Capital – 2014*, filed April 20, 2015.

[18] As with the 2014 cost of capital, the STB has not yet calculated the UP's 2014 RSAM ratio. However, the data required to calculate UP's 2014 tax-adjusted revenue shortfall or surplus are available. Specifically, the UP's 2014 Schedule 250 data provides the railroad's average net investment base and NROI for the year, while the AAR's filings in Ex Parte No. 682 (Sub-No. 6) *Annual Submission of State Tax Information for Use in the Revenue Shortfall Allocation Method (2014),* and Ex Parte No. 558 (Sub-No. 18), *Railroad Cost of Capital- 2014*, provide the UP's weighted average state tax rate and railroad industry cost of capital, respectively.

Although UP's average annual revenue surplus from 2009-2014 was $1,273,053, the portion of that surplus generated by competitive traffic should be shielded from application of the Rebate approach. Therefore, the very first step in implementing both the Proportional and MMM versions is to divide UP's traffic into "presumptively competitive traffic" (*i.e.*, R/VC ≤ 180%) and "potentially captive traffic" (*i.e.*, R/VC > 180%) using either the Costed Waybill Sample ("CWS") or the railroad's detailed traffic and revenue data. The next step is to calculate the net earnings above total cost per movement produced by each group of traffic. The details of how to do this are set forth at pp. 17-18 of the CSA's "Consolidated Hearing Testimony," filed July 20, 2015. Because the CSA do not have access to the confidential CWS or UP's traffic date, Line 3 of Exhibits 2 and 3 *assumes*, for purposes of illustration, that the potentially captive traffic contributed 90% of the average annual surplus in Line 2.[19] Multiplying Line 2 by Line 3 produces $1,145,748 of surplus revenue in Line 4 that can be used to reduce the rates of potentially captive traffic. Line 1 less Line 4 equals Line 5, which represents UP's revenue adequacy target level after subtracting the surplus revenue generated by potentially captive traffic. In other words, if the entire amount in Line 4 were used to reduce the rates of captive traffic, UP's total 2014 revenue would equal Line 5. This, however, is only the first step taken to protect the surplus revenue contribution from potentially competitive traffic.

The operative term in the description "potentially captive traffic" is "potentially," because some traffic in this group will not be captive due to a lack of market dominance. Therefore, because the steps outlined in the preceding paragraph protect only the excess contribution to revenue adequacy from presumptively competitive traffic (*i.e.*, R/VC ≤ 180%), it still is necessary to protect the excess contribution from competitive traffic with an R/VC >

---

[19] The actual percentage for UP could, and likely would, be much less.

180%. The Proportional and MMM versions of the Rebate approach do this in two different ways.

The Proportional method, illustrated in Exhibit 2, respreads the entire value of Line 4 (*i.e.*, the excess contribution from all potentially captive traffic) across the entire potentially captive traffic group, based upon the "Margin Adjustment Factor" in Line 6, which preserves the relative proportion of each movement's demand elasticity to each other.[20] Because some of the potentially captive traffic actually is competitive traffic (*i.e.*, no market dominance), UP would retain the excess contribution that is allocated to such traffic. Moreover, UP also will retain the surplus revenue allocated to truly captive traffic if those shippers do not challenge their rate or cannot do so because their rate is in a contract.

For example, Exhibit 2 assumes that UP has generated the revenue in Line 1 from just seven shippers, designated A through G. Columns 2, 3, and 4 are the assumed rates, costs, and tons for this illustration. Column 5 is the total revenue from each shipper (*i.e.*, Col. 2 x Col. 4). The sum of Column 5 equals UP's total revenue in Line 1. Column 6 is the R/VC ratio for each shipper (*i.e.*, Col. 2 / Col. 3). Column 7 is the elasticity margin (*i.e.*, 1-[Col. 3 / Col. 2]). Col. 8 is the adjusted elasticity margin (*i.e.*, Col. 7 x Line 6), which is used to calculate the reduced rate in Column 9 (*i.e.*, Col. 3 / [1 – Col. 8]).[21] The surplus revenue from Line 4 is earned entirely from Shippers A through D, which are the potentially captive shippers because their R/VC ratios in Column 6 are above 180%. After the Line 4 surplus revenue is respread across

---

[20] For a more detailed discussion of the "Margin Adjustment Factor," see the CSA's "Consolidated Hearing Testimony," pp. 18-19, filed July 20, 2015.

[21] As described at page 21 of the CSA's "Consolidated Hearing Testimony," filed July 20, 2015, this is a potentially fatal flaw in the Proportional Method that could allow railroads to "game" the system. Unless this flaw can be addressed, the Proportional method cannot be seriously considered.

these four shippers via the reduced rates shown in Column 9, the total revenue that UP would receive from them is shown in Column 11. The sum of Column 11 equals Line 5. However, if only Shipper A challenges its rate, Column 12 shows that UP's actual revenue reduction is just $717,310, instead of the $1,145,748 available surplus in Line 4. Furthermore, even if Shippers B, C and D also challenged their rates, each would have to prove market dominance and have tariff rates to receive their allocated share of the surplus revenue. If they cannot prove market dominance, they are competitive shippers, thereby ensuring that UP retains any excess contribution from competitive traffic in the potentially captive traffic group (*i.e.*, R/VC > 180%). If their rates are in contracts, the Board also would lack jurisdiction, thereby ensuring that UP retains any excess contribution from that traffic even if it is captive traffic.

The MMM version of the Rebate approach, illustrated in Exhibit 3, employs the MMM method used in SAC cases to respread the entire value of Line 4 (*i.e.*, the excess contribution from all potentially captive traffic) across potentially captive traffic with the highest R/VC ratios. Because some of this potentially captive traffic may be competitive traffic (*i.e.*, no market dominance), UP would retain the excess contribution that is allocated to such traffic. Moreover, UP also will retain the surplus revenue allocated to truly captive shippers if those shippers do not challenge their rate or cannot do so because the rate is in a contract.

For example, Exhibit 3 assumes that UP has generated the revenue in Line 1 from just seven shippers, designated A through G. Columns 2, 3, and 4 are the assumed rates, costs, and tons for this illustration. Column 5 is the total revenue from each shipper (*i.e.*, Col. 2 x Col. 4). The sum of Column 5 equals UP's total revenue in Line 1. Column 6 is the R/VC ratio for each shipper (*i.e.*, Col. 2 / Col. 3). Line 6 is the average MMM R/VC necessary for the adjusted aggregate revenue in Column 9 to equal the required revenue in Line 5 when applied to just the

potentially captive traffic. In this illustration, the MMM R/VC is 218.1%, which is applied in Column 7 to determine the maximum rates in Column 8. Note the primary difference from the Proportional method is that only Shippers A, B and C potentially could receive any rate relief under MMM, whereas Shipper D also potentially could receive relief under the Proportional method.[22] After the Line 4 surplus revenue is respread across these three shippers via the reduced rates shown in Column 8, the total revenue that UP would receive from them is shown in Column 9. The sum of Column 9 equals Line 5. However, if only Shipper A challenges its rate, Column 10 shows that UP's actual revenue reduction is only $687,449, instead of the $1,145,748 available surplus in Line 4. Furthermore, even if Shippers B and C also challenged their rates, each would have to prove market dominance to receive their allocated share of the surplus revenue. If they cannot prove market dominance, they are competitive shippers, thereby ensuring that UP retains any excess contribution from competitive traffic in the potentially captive traffic group (*i.e.*, R/VC > 180%). If their rates are in contracts, the Board also would lack jurisdiction, thereby ensuring that UP retains any excess contribution from that traffic even if it is captive.

Neither version of the Rebate approach can fairly be described as "rate-of-return" regulation. Both allow a revenue adequate carrier to retain any excess contribution earned from competitive traffic. This means that railroads can, and likely will, continue to earn returns in

---

[22] Whereas the Proportional method redistributes the Line 4 surplus revenue across the entire group of potentially captive traffic, thereby providing every captive tariff movement with the opportunity for some rate reduction, the MMM method would only provide captive tariff movements with the highest R/VC ratios with the opportunity for a rate reduction. Although the Proportional method is more consistent with Ramsey pricing principles, the MMM method is consistent with both Ramsey pricing and the statutory "Long-Cannon" factors. *See Major Issues in Rail Rate Cases*, STB Ex Parte No. 657 (Sub-No. 1), at 16-19 (served Oct. 30, 2006), *aff'd sub nom. BNSF v. STB*, 536 F.3d 770 (D.C. Cir. 2008).

excess of a revenue adequate level—which is itself a highly conservative assessment of the railroads' true ability to attract investment capital, as noted in Part VII below. The only thing the Rebate approach does is to determine what degree of differential pricing of captive traffic relative to competitive traffic remains appropriate once a rail carrier has achieved long-run revenue adequacy. This does not constitute rate-of-return regulation any more than SAC does. The rail industry is merely exploiting the label "Rebate Approach" to wrongly imply that the approach would take excess revenue from competitive traffic and give it to captive traffic, when in fact, the Rebate approach takes a highly conservative approach expressly to avoid that result.

## V. RATE INCREASE LIMITS

Both the Allied Shippers and the CSA contend that the Board may apply the revenue adequacy constraint by allowing a captive shipper to challenge a rate increase by a revenue adequate rail carrier. This standard effectively would establish a *rebuttable* presumption that a rate increase in excess of cost changes (as measured by an index such as the RCAF-A) is unreasonable. The Board has expressed concern, however, that such a presumption would violate ICCTA and/or the APA.

The proposed rate increase limits would not violate ICCTA. In determining whether a rail rate is reasonable, Congress has directed the Board to consider the three so-called "Long-Cannon factors"—

> (A) the amount of traffic which is transported at revenues which do not contribute to going concern value and the efforts made to minimize such traffic;
>
> (B) the amount of traffic which contributes only marginally to fixed costs and the extent to which, if any, rates on such traffic can be changed to maximize the revenues from such traffic; and
>
> (C) the carrier's mix of rail traffic to determine whether one commodity is paying an unreasonable share of the carrier's overall revenues,

> recognizing the policy of this part that rail carrier shall earn adequacy revenues....

49 U.S.C. 10701(d)(2). Thus, these three factors mandated by statute are to be considered consistent with the revenue adequacy policy objective.

The rate increase limit also does not create an unlawful presumption. Presumptions involving matters of economic regulation require "that there shall be some rational connection between the fact proved and the ultimate fact presumed, and that the inference of one fact from proof of another shall not be so unreasonable as to be a purely arbitrary mandate." *Usery v. Turner Elkhorn Mining Co.*, 428 U.S. 1, 28 (1976), *quoting Mobile, J. & K.C.R.R. Co. v. Turnipseed*, 219 U.S. 35, 43 (1910).[23] The rational connection between revenue adequacy and a rate increase limit is that a revenue adequate carrier does not have a need to engage in a greater degree of differential pricing of captive traffic relative to competitive traffic than already exists in order to achieve and maintain revenue adequacy, and therefore, any further rate increases, other than to reflect changes in costs, are unwarranted.[24]

A rail carrier could rebut that presumption, however, by demonstrating that changes in its traffic mix implicate the Long-Cannon factors in a manner that requires a higher degree of differential pricing for this particular traffic than existed over the most recent six year business cycle for which the carrier has been determined to be revenue adequate. Potentially relevant considerations, for example would be: (A) whether there has been an increase in traffic that

---

[23] *See also, Nat'l Mining Ass'n v. Babbitt*, 172 F.3d 906, 912 (D.C. Cir. 1999) (Agencies may adopt presumptions "if there is a sound and rational connection between the proved and inferred facts, and when proof of one fact renders the existence of another fact *so probable* that it is sensible and timesaving to assume the truth of [the inferred] fact...until the adversary disproves it.") [italics in original]; *Massachusetts v. U.S.*, 856 F.2d 378, 383 (1st Cir. 1988) ("Agencies are permitted to adopt and apply presumptions if the proven facts and the inferred facts are rationally connected.").

[24] *Coal Rate Guidelines*, 1 I.C.C.2d at 535-36.

does not contribute to the carrier's going concern value; (B) whether the mix of traffic has changed to the detriment of revenue adequacy; and (C) is the rate increase limit requiring other captive traffic to pay higher rates to maintain revenue adequacy.

Presumptions also do not violate the APA, at 49 U.S.C. 556(d), by shifting the burden of proof from the complainant to the railroad. The "burden of proof" concept encompasses two distinct burdens: "the 'burden of persuasion,' *i.e.*, which party loses if the evidence is closely balanced, and the 'burden of production,' *i.e.*, which party bears the obligation to come forward with the evidence at different points in the proceeding." *Schaffer v. Weast*, 546 U.S. 49, 56 (2005). Unlike the burden of persuasion, the burden of production can shift back and forth between parties throughout the proceeding. *Moore v. Kulicke & Soffa Indus.*, 318 F.3d 561 (3rd Cir. 2003). Although the APA places the burden of persuasion upon the party seeking relief,[25] "a presumption that shifts only the burden of production does not shift the 'burden of proof' as that phrase is used in the APA." *Garvey v. NTSB*, 190 F.3d 571, 580 (D.C. Cir. 1999).[26]

## VI. The Relevance of the "Surface Transportation Board Reauthorization Act of 2015"

During his testimony, AAR President and CEO, Edward Hamburger, pointed to the "Surface Transportation Board Reauthorization Act of 2015," recently passed by the Senate as S.808, as evidence that Congress intends for the Board to determine revenue adequacy based upon replacement costs. Specifically, Mr. Hamburger pointed to Section 16 of S.808, which would amend 49 U.S.C. 10704(a)(2) by adding the phrase "for the infrastructure and investment needed to meet the present and future demand for rail services" to the revenue adequacy criteria.

---

[25] *Schaffer* at 57.

[26] *See also, St. Mary's Honor Center v. Hicks*, 509 U.S. 502,507-08 (1993); *ITC Limited v. Punchgini, Inc.*, 482 F.3d 135, 147-49 (2d Cir. 2007); Fed. R. Ev. 301.

In rendering his personalized interpretation of this language, however, Mr. Hamburger ignored the Senate Report accompanying S.808, which explicitly states that Section 16 "would not require any change to how the STB determines railroad revenue adequacy."

## VII. RAILROAD INVESTMENT INCENTIVES

Economists retained by the railroads have claimed that "railroads, on average, earn[] less than their cost of capital."[27] According to the railroads and their economists, the STB's revenue adequacy determinations—which until recently have consistently found that the railroads have earned less than their cost of capital—are overly optimistic.[28] As explained below, the evidence actually demonstrates the opposite: The STB's revenue adequacy determinations have consistently proven to be a conservative indicator of the industry's actual ability to attract investment from the capital markets. This should give the STB confidence that the revenue adequacy standard provides a conservative regulatory constraint that is more than sufficient to protect the railroads' incentives to invest.

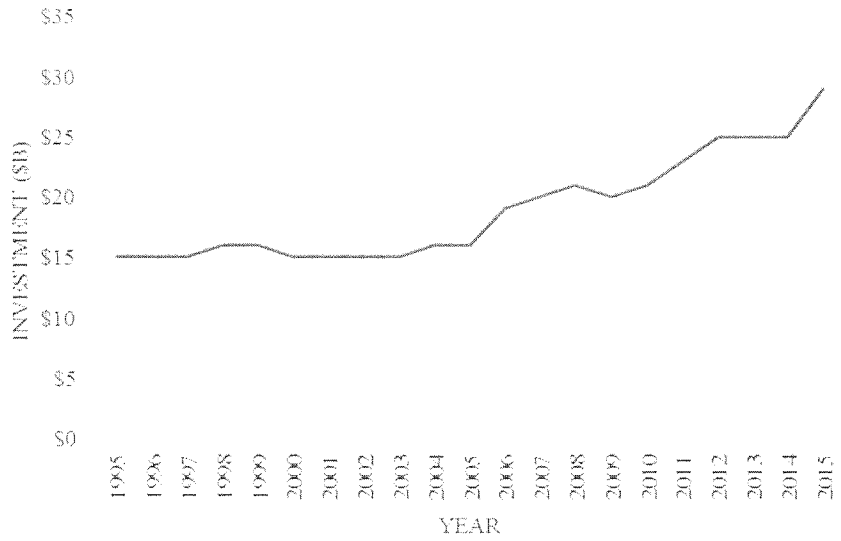
While insisting that the industry has never delivered sufficient returns to satisfy their investors, the railroads have simultaneously emphasized the massive capital investments that they have successfully attracted in recent years and decades. As illustrated below, since the end of the Great Recession in mid-2009, the railroads have invested approximately $168 billion. In the past ten years, investments have totaled $244 billion. In the past 20 years, approximately $394 billion has been invested.[29]

---

[27] Opening Statement of the Association of American Railroads (September 5, 2014), Verified Statement of Roger Brinner, at 12; Exhibit 2.

[28] *Id.* at 8 ("There is good reason to believe that the Board's annual measurements of revenue adequacy substantially overstate the true economic returns earned by railroads.").

[29] American Association of Railroads, *2015 Outlook*, at 3 (showing annual investment from 1980 – 2015, and noting that "Even during the economic downturn, America's freight railroads




Source: American Association of Railroads, *2015 Outlook*, at 3. Note: 2015 value represents AAR projection.

Investments on this scale obviously require large inflows from the capital markets. According to both elementary economics and common sense, a for-profit enterprise cannot attract investment capital over the long run without returning sufficient returns to its investors. The railroads' own economists have emphasized this point, noting that investment projects are approved only "up to the point where the rate of return drops below the cost of capital."[30] As the railroads' economists have correctly pointed out, this means that a railroad (or any for-profit enterprise) should, on average, earn *more* than its cost of capital—because investment projects

---

continued to make record private investments in the rail network. In recent years, railroads have poured an average of $25 billion a year into the nation's rail infrastructure and equipment.") *See also* Opening Statement of The Association of American Railroads (September 5, 2014), Christensen Verified Statement at 16 ("The railroads have been investing increasing amounts and capital expenditures are as great as they have ever been.")

[30] Opening Statement of the Association of American Railroads (September 5, 2014), Verified Statement of Roger Brinner, at 27; Exhibit 6a.

with expected returns above the cost of capital would be approved, while investment projects with expected returns below the cost of capital would be rejected.[31]

This reveals a fundamental contradiction in the railroads' position: If, as the railroads claim, they have consistently failed to deliver sufficient returns to cover their cost of capital (let alone *exceed* their cost of capital, as they should) then how have the railroads managed to continue attracting billions of dollars in investments over a period of years and decades? Have the railroads' project managers consistently recommended projects that failed to cover the cost of capital (or "hurdle rate")? Have top executives consistently approved these financially untenable projects? And has Wall Street continued to throw good money after bad by funneling ill-advised capital inflows to the industry? Clearly not. The only way in which the railroads could have invested these hundreds of billions of dollars to upgrade, maintain, and replace their networks over the years and decades is by consistently delivering returns in excess of their true cost of capital.

Thus, the railroads' continued success in attracting investment shows that the STB's revenue adequacy metric is a highly conservative indicator of the railroad's ability to deliver sufficient returns to investors—and that the railroads' claims to the contrary have it exactly backwards. For example, from 1995 to 2010, the industry was consistently found to be revenue inadequate (except in 2005, when industry returns on investment were found to just equal the cost of capital). During this timeframe, approximately $270 billion was invested.[32] The capital required for these levels of investment could not have been sustained over a 15-year period if the railroads had actually failed to earn sufficient returns to satisfy their investors. Similarly,

---

[31] *Id.* at 28-29.

[32] American Association of Railroads, *2015 Outlook*, at 3.

from 2004 – 2013, the railroads attracted approximately $206 billion in investment capital[33]—yet the railroad's economists claim nonsensically that the industry delivered returns well *below* their cost of capital during this same ten-year period.[34]

The railroads' robust performance during and since the Great Recession of 2007-2009—the most severe economic downturn since the Great Depression of the 1930s—provides further confirmation of the industry's financial viability. As demonstrated in Exhibit 4, over the past decade, railroad stocks have consistently outperformed the market average, and the gap has only widened since the Great Recession. These same data show that a hypothetical investor in railroad stocks from 2004 to 2013—the period singled out by the railroads' economists as supposedly exemplifying subpar returns to investment—would have enjoyed returns more than four times the market average.

Respectfully submitted,

Jeffrey O. Moreno
Thompson Hine LLP
1919 M Street, N.W., Suite 700
Washington, DC 20036
(202) 263-4107

*On Behalf of:*
American Chemistry Council
The Fertilizer Institute
The Chlorine Institute
The National Industrial Transportation League

August 6, 2015

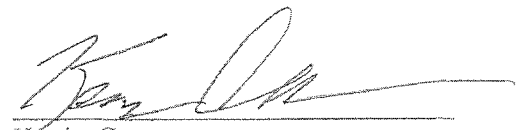
---

[33] *Id.*

[34] Opening Statement of the Association of American Railroads (September 5, 2014), Verified Statement of Roger Brinner, at 12-13; Exhibit 2.

## VERIFICATION

I, Kevin Caves, verify under penalty of perjury that I have read this Verified Statement, that I know the contents thereof, and that the same are true and correct based on my knowledge, information and belief. Further, I certify that I am qualified and authorized to file this Statement.



Kevin Caves

Executed on 8/5/2015

# EXHIBIT 1

# Union Pacific Net Revenue Adequacy -- 2009 to 2014 Business Cycle
## ($ in 000)

| Year | | Cost of Capital | Tax Adjusted (shortfall)/surplus | Present Value of Tax Adjusted (shortfall)/surplus |
|---|---|---|---|---|
| (1) | | (2) | (3) | (4) |
| 1. | 2009 | 10.43% | -$767,046 | -$1,259,671 |
| 2. | 2010 | 11.03% | 219,718 | 333,908 |
| 3. | 2011 | 11.57% | 682,782 | 948,254 |
| 4. | 2012 | 11.12% | 1,638,241 | 2,022,844 |
| 5. | 2013 | 11.32% | 2,027,153 | 2,256,626 |
| 6. | 2014 | 10.65% | 3,336,358 | 3,336,358 |
| | | | | |
| 7. | Total | xxx | $7,137,206 | $7,638,319 |
| 8. | Average | xxx | xxx | $1,273,053 |

# EXHIBIT 2

# Rebate Reduction Approach Based On Price-Cost Margins
# For UP Based on 2009 to 2014 Business Cycle

| | | |
|---|---|---|
| 1. | **UP 2014 Revenues (000s)** | $23,876,553 |
| 2. | **Average Surplus (000s)** | 1,273,053 |
| 3. | **Potentially Captive Excess Return Share** | 90% |
| 4. | **Surplus Available to Potentially Captive Shippers** | 1,145,748 |
| 5. | **UP Required Revenues (000s)** | $22,730,805 |
| 6. | **Margin Adjustment Factor** | 95.1% |

| | | Base | | | | | | Adjusted | | | | Actual Adjustments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Shipper | Rates | Costs | Tons (000s) | Total Revenue (000s) | R/VC Ratio | Elasticity Margin | Elasticity Margin | Rates | R/VC Ratio | Total Revenue (000s) | Revenue Reduction |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| 7. | A | $7.00 | $3.00 | 1,000,000 | $7,000,000 | 233.3% | 57.143% | 54.349% | $6.57 | 219.1% | $6,571,562 | $717,310 |
| 8. | B | $11.00 | $5.00 | 500,000 | $5,500,000 | 220.0% | 54.545% | 51.878% | $10.39 | 207.8% | $5,195,167 | $0 |
| 9. | C | $10.00 | $4.00 | 500,000 | $5,000,000 | 250.0% | 60.000% | 57.066% | $9.32 | 232.9% | $4,658,334 | $0 |
| 10. | D | $8.50 | $4.50 | 200,000 | $1,700,000 | 188.9% | 47.059% | 44.758% | $8.15 | 181.0% | $1,629,189 | $0 |
| 11. | E | $8.00 | $6.00 | 100,000 | $800,000 | 133.3% | 25.000% | 25.000% | $8.00 | 133.3% | $800,000 | $0 |
| 12. | F | $8.00 | $7.00 | 100,000 | $800,000 | 114.3% | 12.500% | 12.500% | $8.00 | 114.3% | $800,000 | $0 |
| 13. | G | $3.23 | $7.00 | 952,888 | $3,076,553 | 46.1% | -116.808% | -116.808% | $3.23 | 46.1% | $3,076,553 | $0 |
| 14. | Total | | xxx | 3,352,888 | $23,876,553 | xxx | xxx | xxx | xxx | xxx | $22,730,805 | xxx |

# EXHIBIT 3

# Rebate Reduction Approach Based On Maximum Markup Methodology
# For UP Based on 2009 to 2014 Business Cycle

| | | |
|---|---|---|
| 1. | **UP 2014 Revenues (000s)** | $23,876,553 |
| 2. | **Average Surplus (000s)** | 1,273,053 |
| 3. | **Potentially Captive Excess Return Share** | 90% |
| 4. | **Surplus Available to Potentially Captive Shippers** | 1,145,748 |
| 5. | **UP Required Revenues (000s)** | $22,730,805 |
| 6. | **MMM R/VC Ratio** | 218.1% |

| | | Base | | | | | Adjusted | | | Actual Adjustments |
|---|---|---|---|---|---|---|---|---|---|---|
| Shipper | | Rates | Costs | Tons (000s) | Total Revenue (000s) | R/VC Ratio | R/VC Ratio | Rates | Total Revenue (000s) | Total Revenue |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| 7. | A | $7.00 | $3.00 | 1,000,000 | $7,000,000 | 233.3% | 218.1% | $6.54 | $6,541,701 | $687,449 |
| 8. | B | $11.00 | $5.00 | 500,000 | $5,500,000 | 220.0% | 218.1% | $10.90 | $5,451,417 | $0 |
| 9. | C | $10.00 | $4.00 | 500,000 | $5,000,000 | 250.0% | 218.1% | $8.72 | $4,361,134 | $0 |
| 10. | D | $8.50 | $4.50 | 200,000 | $1,700,000 | 188.9% | 188.9% | $8.50 | $1,700,000 | $0 |
| 11. | E | $8.00 | $6.00 | 100,000 | $800,000 | 133.3% | 133.3% | $8.00 | $800,000 | $0 |
| 12. | F | $8.00 | $7.00 | 100,000 | $800,000 | 114.3% | 114.3% | $8.00 | $800,000 | $0 |
| 13. | G | $3.23 | $7.00 | 952,888 | $3,076,553 | 46.1% | 46.1% | $3.23 | $3,076,553 | $0 |
| 14. | Total | | xxx | 3,352,888 | $23,876,553 | xxx | xxx | xxx | $22,730,805 | xxx |

# EXHIBIT 4


*Source*: Google Finance. Note: DJSURR = Dow Jones US Railroad Index; DJUSTK = Dow Jones US Trucking Index.