

VERIFIED STATEMENT

of

Gerald R. Faulhaber*

STAND-ALONE COST – RESPONSE TO COMMENTS

In their filings before the Surface Transportation Board in Docket Ex Parte No. 722, September 5, 2014, a number of railroads and their consultants discussed the Stand-Alone Cost test, calling it the “gold standard” of rate setting and noting that it “mimicked competition,” among other items. Unfortunately, they did not have the opportunity to read my September 5 comments (submitted with the Concerned Shipper Associations filing) that debunked these claims, based on my original paper¹ and the follow-on work by Baumol, Panzar and Willig². This response provides the opportunity to discredit these overblown claims in detail.

I group the incorrect statements made in these filings into three categories: (1) Stand-Alone Cost is the “gold standard” for testing rate reasonableness; (2) the Stand-Alone Cost test “mimics competition”; and (3) Stand-Alone Cost (and its simplifications) are practical and effective regulatory tools. I cover each category in turn.

1. Claim: “Stand-Alone Cost is the ‘gold standard’ for rate reasonableness”

This common claim is repeated in all the railroad filings. Here are several examples:

“The Stand-Alone Cost 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...”³

“The Stand-Alone-Cost test—which is rooted in sound economics—is available to all shippers...”⁴

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¹ Faulhaber, G.R. (1975) “Cross Subsidization: Pricing in Public Enterprises” *American Economic Review*, **65**, pp.966-977.

² Baumol, W.J., Panzar, J.C, & Willing, R.D. (1982) *Contestable Markets and the Theory of Industry Structure* New York: Harcourt, Brace Jovanovich.

³ Association of American Railroads (2014), comments in Railroad Revenue Adequacy, STB Docket Ex Parte No. 722, September 5 pp. 39-40.

⁴ Norfolk Southern Railway (2014) comments in Railroad Revenue Adequacy, STB Docket Ex Parte No. 722, September 5, p. 25.

“Stand-Alone Cost is indisputably the ‘most accurate procedure available for determining the reasonableness of rail rates where there is an absence of effective competition.’”⁵

“...the Stand-Alone Cost constraint...is widely and consistently recognized by the Board, courts, and economists as the gold standard.”⁶

“Stand-Alone Cost is the acknowledged gold standard for rate reasonableness analysis.”⁷

Response: As the original author of SAC, I should be quite flattered by all these encomia ... if any of it were true. Unfortunately, the use of Stand-Alone Cost in railway rate regulation is so far from the models in which it was originally developed as to be unrecognizable. Let’s review the economic model in which Stand-Alone Cost was developed:

Economic World of Stand-Alone Cost/Contestable Markets

Monopoly; there is only one firm that produces the good or service in question.

Profit-constraining regulation; prices are regulated to ensure the entire firm makes no more than its cost of capital.

Each and every price is regulated; as is investment, innovation, entry and exit.

The key question asked in the Faulhaber (1975) paper was cross-subsidy; under what conditions did the regulated prices lead some services to provide a subsidy to other services? For example, the industry that best fit the Stand-Alone Cost economic model was the then-regulated telecommunications industry: was long-distance service providing a subsidy to local exchange service? The Faulhaber (1975) paper provided an economically sound approach to answering that question, within the context of a fully-regulated monopoly telecommunications market of the 1970s. The Baumol, Panzar Willig work (1982) extended this work to encompass competition, expressed using the concept of contestable markets. In the former work, Stand-Alone Cost measured whether a particular service (or group of services) was providing a subsidy to other services. In the latter work, Stand-Alone Cost was a measure of whether a particular service (or group of services) would attract competitive entry in the specialized world of contestable markets.

Economic World of Class I US Freight Railroads

Four major rail freight carriers; down from dozens due to consolidation, that compete for much (but not all) traffic.

⁵ *op cit.* p. 25.

⁶ *op cit.* p. 77.

⁷ CSX Transportation (2014) comments in Railroad Revenue Adequacy, STB Docket Ex Parte No. 722, September 5, p. 28.

Only prices to captive shippers are regulated by the Surface Transportation Board; rail prices in competitive markets are completely deregulated.

No firm-wide profit constraint: because all prices in competitive markets are completely deregulated, the Staggers Act constrains the Board from imposing a firm-wide profit constraint upon railway firms.

These two worlds are completely different economic models; conclusions from one set of papers addressing one economic model have no relevance to addressing problems encountered in a completely different economic model. As I pointed out in Faulhaber⁸, if the firm is not profit-constrained, the stand alone cost has no meaning in the context of cross-subsidy. As a consequence, the use of the stand alone cost test by the STB has nothing to do with cross-subsidy, as railroads are not subject to a profit constraint and by any measure are highly profitable today. But perhaps the Baumol, Panzar, Willig (BPW) may provide such justification for using Stand-Alone Cost in rail rate regulation? Unfortunately, no; in Baumol, Panzar, Willig, the firm is also assumed to be a profit-constrained enterprise for which regulators control all the prices of the enterprise, which also apply to services (not individuals). Again, the BPW model simply doesn't fit the STB-regulated rail firms; it is not even close. This provides no economic justification for imposing stand-alone cost regulation. None.

2. Claim: The proper test for rate reasonableness is to “mimic” (or simulate) competition in a contestable market

This claim was made by most railroad parties, but particularly by the economic consultants:

“The Stand-Alone Cost test, which judges the reasonableness of a challenged rate by comparison to the rate that would prevail in a competitive market...”⁹

“the Stand-Alone Cost test in the rail industry prevents the abuse of market power and implements the “mimic competition” principle of rate regulation in the public interest....the Stand-Alone Cost test rest on the economics of “contestable markets.”¹⁰

“The Stand-Alone Cost constraint is intended to simulate a competitive rate, which the Board specifies as ‘the rate a hypothetical efficient railroad would need to charge to serve the complaining shipper, while fully covering all of its costs, including a reasonable return on investment.’ This competitive rate is precisely the sort of protection that the Board has been charged with making available to shippers for movements where effective competition is absent.”¹¹

⁸ Faulhaber, G.R. (2005), “Cross-Subsidization with More Than Two Services” *Journal of Competition Law & Economics*, 1(3), 441-448.

⁹ American Association of Railroads, *op cit.* pp. 39-40.

¹⁰ *op cit.*, Verified Statement of Joseph Kalt. p.26

¹¹ Norfolk Southern Railway *op cit.* Verified Statement of Bradford Cornell p. 5.

“In 2014, the U.S. Court of Appeals for the District of Columbia reaffirmed the intent of the Stand-Alone Cost constraint, commenting:

‘The ultimate aim of the Stand-Alone-Cost test is to require that ‘railroads functioning in a noncompetitive market . . . price as if alternatives to their services were available’ to the captive shipper.’”¹²

“This regulation is designed to afford shippers that lack effective competition the protection they would enjoy in a contestable market.”¹³

Response: I am in complete agreement with all these filings insofar as they claim, to quote the DC Circuit Court, that “the ultimate aim...is to require that ‘railroads functioning in a noncompetitive market price as if alternatives were available’ to the captive shipper”, using the assumptions of contestable markets. I am in complete *disagreement* that, in the world of today’s railroad industry, the Stand-Alone Cost test is the proper tool to simulate contestable market competition. In fact, it is precisely the *wrong* tool to accomplish this laudable objective.

This might appear to fly in the face of the Baumol, Panzar, Willig work (1982) on contestable markets, in which Stand-Alone Cost was indeed used as the measure of potential entry by firms outside the monopoly. But to do so would be to ignore the major differences in the regulated monopoly market of Faulhaber (1975) and Baumol, Panzar, Willig (1982) as discussed in the previous section.

In particular, in the monopoly world posited by the earlier work, the *only alternative* to the monopoly supplier would be a totally new entrant, with no existing facilities or operations in the business at hand. Thus, the Stand-Alone Cost measured the only way in which competition might occur in that market.

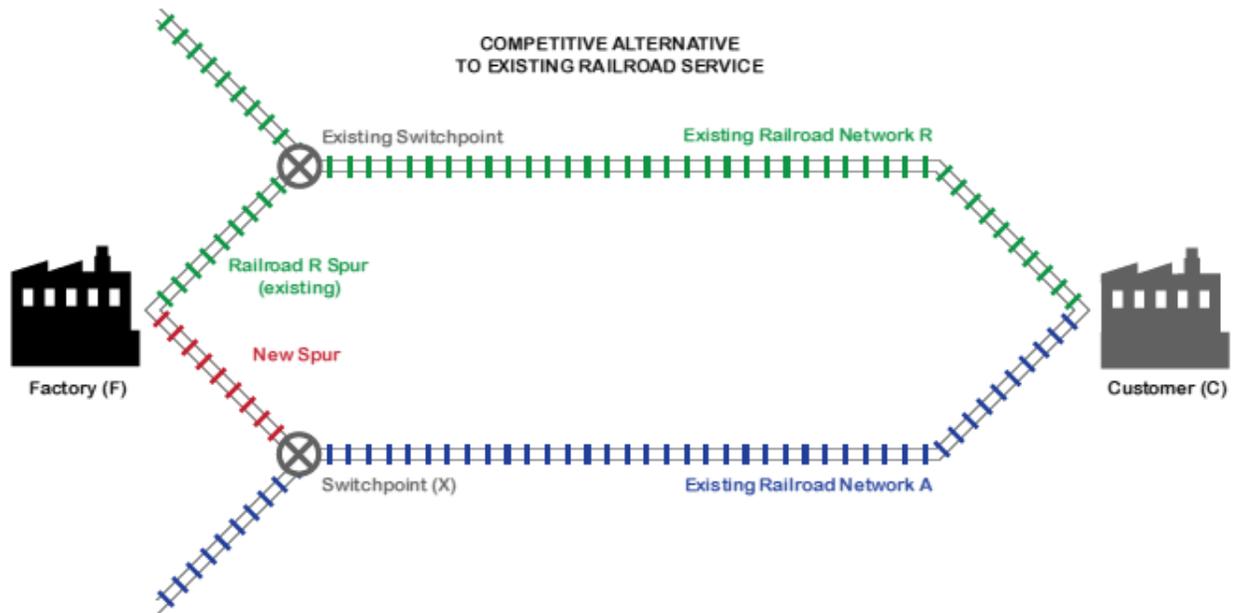
In the actual world of the railroad industry, there is no monopoly; there are, in fact, seven Class I freight railroads operating in the US, any of which could be a potential source of competition (in a contestable market). If the purpose of the cost exercise is, and the DC Circuit Court opinion noted above, to simulate competitive options for shippers, then all competitive options available in today’s actual world of the railroad industry, assuming contestable markets, must be considered, not just the option of a wholly independent Stand-Alone railroad to serve the particular shipper’s needs.

An example suffices to demonstrate such competitive options. Suppose we have a chemical shipper whose factory is at location F, shipping sulfur to a customer at location C; it is currently a captive shipper of railroad R, which has built a spur from F to its nearest switch point on its US rail network, over which it ships the sulfur from F to C. Should the shipper object to the rate charged by R, it would have to design and cost out an entire rail network between F and C (the

¹² *op cit.* pp. 5-6

¹³ *op cit.*, Verified Statement of David Sappington p. 5-6.

Stand-Alone railroad) and compare the total cost to the rate it is currently being charged. This assumes that a potential competitor, under the assumption of a contestable market, would have to build an entirely new rail network to carry this traffic, a very unlikely scenario. Far more likely, a competitor could build a spur from F to the next-nearest railroad switch point X to connect with the existing alternative railroad A. That railroad would then charge the shipper its competitive rate to ship sulfur from X to C, as shown in the figure below.



Again assuming a contestable market, railroad A would be willing to ship the sulfur at its already-established market-based rate.¹⁴ In this case, what is the price of this competitive alternative? It is (i) a price sufficient to cover the Stand-Alone Cost of building and operating the spur from F to X plus (ii) the market-based price of railroad A to carry the sulfur from X to C. And this should be a price that would “mimic competition,” and should thus be compared to the rate that railroad R is actually charging the captive shipper. We note that in this example, this competitive option is simply one of perhaps many competitive options, using access to existing railroads at existing (or new) switch points, each of which would have a price, calculated as above. Clearly, the lowest price so calculated would best “mimic competition” when judging the rate reasonableness being charged the captive shipper by railroad R.

It could be argued that in practice, the next-nearest railroad A may choose not to carry the shipper’s sulfur, perhaps because of a tacit understanding with railroad R. We acknowledge that such an outcome is certainly possible, perhaps likely, in today’s transportation marketplace, but recall that we are assuming a contestable market in order to “mimic competition;” in this world, firms aggressively pursue new business, and are willing to provide

¹⁴ Should a market-based competitive rate not be available, contestable market theory suggests that railroad A would be willing to carry this traffic at any price in excess of its (long-run) incremental cost of carriage. Thus, long-run incremental cost could be used as an alternative to an actual market-based price.

service if it can be offered at a price that covers its cost of doing that business. The “mimic competition” model of regulation that the STB has used for decades is based on the contestable market assumption, in which competition which may not occur in existing markets will take place.

Note that one competitive alternative is to build and operate a totally self-contained *de novo* rail system, specifically for this shipper’s traffic. Doing so corresponds to the current Stand-Alone Cost test. I certainly agree that such an alternative could in theory be computed. However, it is highly unlikely that this competitive option would be the least-cost option, and a complaining shipper should be free to choose which competitive option it presented for analysis, limited only by the existing rail system.¹⁵

Limiting shippers to only use one competitive option, a totally self-contained *de novo* system, only makes economic sense within the model of regulated monopoly, in which no alternative suppliers are available. Since this is not the world in which we live, shippers should be able to choose which option they present for testing rate reasonableness.

I conclude that I am in full agreement that “mimicking competition” is an excellent way to test for rate reasonableness, but using only Stand-Alone Cost to do so is a grave mistake. Shippers should be permitted to construct the competitive option(s) that best “mimic competition” for its business, and use these options to test for rate reasonableness. Such options should be constrained by the existing rail network structure and pricing, as well as making use of contestability theory. Only then will the STB truly “mimic competition” in testing for rate reasonableness.

3. Stand-Alone Cost (and its simplifications) are practical and effective regulatory tools

Again, a few examples from the filings:

“Over time, the SAC test evolved organically as new issues were presented, litigated, and ultimately ruled upon by the ICC or STB. Indeed, full SAC cases have evolved from little more than a concept nearly thirty years ago in *Coal Rate Guidelines* to a sophisticated package of interactive algorithms and computer models today. In this evolution, some element of complexity has been inevitable and is not unwarranted. The network enterprise of railroading is complex and modeling a railroad is complex. But many vexing issues have been overcome.

The pattern that has emerged over time is that new issues are presented by the parties in individual rate cases. This inevitably introduces new complexity and temporary

¹⁵ Another, perhaps preferable, alternative would be for the shipper to request service from F to X from railroad R, and then arrange with railroad A to complete the shipment to C. The rate railroad R would be permitted to charge the captive shipper for shipment from F to X would be no more than the Stand-Alone Cost of this spur. Of course, the shipper would also be responsible for paying railroad A’s rate from X to C, presumably reflecting actual market conditions at X.

uncertainty into the SAC process. The issues are then debated vigorously, often in a series of cases, sometimes even on appeal. Eventually, the ICC or STB settles the issue.”¹⁶

“To the extent there are concerns with the high cost of using SAC to determine “mimic competition” rate levels, the proper approach is to seek to *simplify* the procedures for implementing SAC as the Board has successfully done in the past,”¹⁷

Response: The thrust of these comments is that for almost thirty years, Stand-Alone Cost test methodology has been enormously complex and costly for both shippers and the STB, and continues to be so. The best advice this filing can muster is to simplify it, as if the ICC and the STB hadn’t considered this over the past three decades.

The reason that Congress suggested simplified versions of the Stand-Alone Cost test, and that the STB has come up with easier means to prove a rate is excessive, demonstrates that the current implementation of the Stand-Alone Cost test is unwieldy in the extreme: unnecessarily complex and expensive to implement, and (in the case of carload shippers) unlikely to ever meet the demands of the STB (and railroad interveners) to capture every last jot and tittle of railroad costs. The extreme complexity is no accident and should be no surprise; it evolved as part and parcel of the regulatory process.

Could this have been avoided? Definitely; what is missing is that the STB has failed to develop a general Stand-Alone Cost computer model, into which shippers, regulators or railroads could plug in parameters and data particular to their issue and have the model calculate the Stand-Alone Cost. Such a model would have built into it the complexities and connections of building and operating a Stand-Alone railroad, and would be approved for use by the STB. Having shippers build their own model for each rate case is extraordinarily wasteful and duplicative, and in the end unsuccessful. Two decades ago, the Federal Communications Commission faced a similar problem when it adopted a long-run incremental cost standard for rate-making purposes; its solution was to commission a model to be built which permitted the calculation of incremental costs, called TELRIC (total element long-run incremental cost), which became the standard regulatory cost model. Requests for rate approval and challenges to rates all used TELRIC, drastically reducing the costs of everyone, not least the FCC, of conducting business. The STB has developed a model for determining variable costs, the Uniform Railroad Costing System (URCS), for use as an industry standard, apparently successfully. For whatever reason, STB has chosen not to introduce a stand-alone cost model in spite of having developed URCS, leading to a huge waste of time and money for the parties involved.

Another point causing some confusion:

¹⁶ Association of American Railroads, *op cit.* p. 45.

¹⁷ Association of American Railroads, *op cit.* Verified Statement of Joseph Kalt p.39

“driv[ing] rates on some regulated traffic down below SAC levels – *i.e.*, below the level necessary to cover full long-run costs – contrary to the competitive market principles underlying the Board’s approach to rate regulation.”¹⁸

Response: This is simply an economic error. The rate level required to cover long-run costs for any portion of the railroad’s business is long-run *incremental* cost; *i.e.*, the *additional* cost that the service/product/customer in question causes the railroad. Stand-Alone Cost is the cost of the service/product/customer in question if a separate railroad is built for just that traffic. As a rule, long-run incremental cost is much less than Stand-Alone Cost, particularly in a business characterized by scale and scope economies.

“Railroads and shippers regularly resolve disagreements over rates by reference to the likely outcome of SAC cases. A practice of “regulatory contestability” has taken hold in the rail sector. That is to say, potential litigants avoid the costs and other burdens of complex rate litigation by simulating the likely outcomes of litigation through negotiated resolution of disputes.... – a successful regime should result in *fewer*, not more, cases.”¹⁹

“...the fact that most shippers never feel the need to bring rate cases is not a sign of regulatory failure—it is a sign of regulatory success.”²⁰

Response: This claim was mentioned throughout the reviewed filings. The point is that rate cases are only brought if there is disagreement among the parties about the outcome of such a case. If there is no disagreement, then the case will be settled prior to legal action via negotiation. This is true, but not because the regulation in question is *good*, but only that it is *certain*. If both parties are completely certain of the outcome of a case, they will indeed bargain to that solution rather than file rate cases. But this is true if the outcome is inefficient or unfair, as well as if the outcome is efficient and fair. It is therefore not true that failure to bring cases “is a sign of regulatory success.” It is a sign of regulatory certainty, not regulatory success.

4. Conclusion

The fundamental flaw in the reviewed filings is that the Stand-Alone Cost test is the economically appropriate standard for testing rate reasonableness because it “mimics competition.” In fact, while “mimics competition” is a very plausible standard for testing rate reasonableness, the Stand-Alone Cost test does not do this in the economic world of the rail industry; it is not even close. Stand-Alone Costs were developed for an economic world of profit-constrained rate regulated monopoly, which is not at all like the largely unregulated, not profit-constrained and world of seven major rail networks that constitute this industry. I have

¹⁸ American Association of Railroads, *op cit.* p. 41

¹⁹ *op cit.* pp. 46-47.

²⁰ Norfolk Southern Railroad, *op cit.* p.82

given a simple example of how competitive options could be developed for this world, based on the same principles of Faulhaber (1975) and Baumol, Panzar, Willig (1982), that would be far more suitable for testing rate reasonableness. In sum, there are several possible right answers to how to test for rate reasonableness, but the Board's current Stand-Alone Cost model is without doubt the wrong answer.

VERIFICATION

I, Gerald R. Faulhaber, 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.

A handwritten signature in cursive script, reading "Gerald R. Faulhaber", is written on a light gray rectangular background.

Gerald R. Faulhaber

Executed on November 3, 2014