

# The National Academies Report on Modernizing Rail Regulation

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# TRB Special Report 318

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- <http://www.nap.edu/catalog/21759/modernizing-freight-rail-regulation>
- Or go to National Academies Press and search for Special Report 318.
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# Fundamental Finding

- Railroad regulation following 1980 was successful at achieving the aims of policy makers at the time.
- Railroad regulation from the 1980's is no longer appropriate for current conditions and should be updated.
- Six specific recommendations for modernizing regulation.



# The recommendations

- 1) Prepare to repeal the 180 percent revenue-to-variable-cost formula by directing USDOT to develop, test, and refine competitive rate benchmarking methods that can replace URCS in screening rates for eligibility to be challenged.
- 2) Replace STB rate reasonableness hearings with arbitration procedures that compel faster resolutions of disputes involving rates deemed eligible for challenge because they substantially exceed their competitive rate benchmarks.



# Recommendations continued

- 3) Allow reciprocal switching as a remedy for unreasonable rates.
- 4) End annual revenue adequacy determinations and require periodic assessments of industrywide economic and competitive conditions
- 5) Transfer merger review authority to the antitrust agencies; do not apply public interest standard.
- 6) Undertake a strategic review of data programs.



# Outline of talk

- Go through enough history to understand
  - The logic of regulation 1920-1980
  - The changes made in 1980/1995
  - Why the 1980 law, successful as it was in dealing with the problems of 1970's, is not useful today.
  - What would be better.
- But in order to understand 1980/1995, we need to understand 1887/1920 and before
- Railroads are a product of their history.



# Railroads were *REALLY* important

- “The power to make freight rates is the power to turn wilderness into a city or a city into a wilderness.” (From a 1915 text in transportation economics.)
- A producer could not move its own goods.
- You were fully at the mercy of railroads to connect to your customers.
- To protect yourself, you wanted to have many companies bidding for your services.



# Many small better than one big

- You preferred two under-sized railroads to one efficient railroad to serve your establishment.
- Contemporary doubt that construction decisions were based on rational benefit-cost comparisons
  - There was empire building and sport of business
- The result was massive over-investment in miles of line.



# Consequence of excess capacity

- $AC \gg MC$ .
- This has two consequences:
  - 1) Carriers were relentlessly looking for revenues
  - 2) Carriers had an incentive to “cheat” by cutting prices.
- A relentless search for revenues
- Vulnerability of carriers to hard bargaining on the part of customers.
- Both carriers and customers felt exploited



# The ICC Act

- It took thirty years before regulation was finally in stable form, in the Transportation Act of 1920
- The ICC Act as implemented in 1920 was an attempt to solve the two-sided railroad problem of trying to find revenues to fund an over-extended system.
- It did so by applying the standards of common law to the railroad industry.



# ICC Act

- All rates shall be just and reasonable.
- Personal discrimination is unlawful: this outlawed charging different prices for “like and contemporaneous service in the transportation of a like kind of traffic under substantially similar circumstances and condition.”
- It is unlawful for any common carrier to give any undue or unreasonable preference or advantage to any particular person, company, or firm; it is also unlawful to grant any undue or unreasonable prejudice or disadvantage in any respect whatsoever.
- Long-haul short-haul discrimination is outlawed.
- Pooling is prohibited.
- Rates must be published.
- Interstate Commerce Commission was established to carry out the previous six sections of the law.



# The Rate Reasonableness Criterion

- Under transport regulation of mid-20<sup>th</sup> century
  - Rates were to be “reasonable,” not low or efficient
  - Rates were collectively made by carriers
    - The ICC ratified decisions of the rate bureaus
- “Reasonableness” meant that rates were not out-of-line with one another.
  - Carriers could not charge one shipper more than another because it lacked bargaining power.
- Satisfied both customers as well as carriers.
- Seen as a marvelous success in the 1930’s.



# Traffic must be able to “move”

- According to the ICC, traffic should “move.”
- The ICC thought railroads were charging prices so high (to some shippers) that no traffic moved.
- Makes no sense until you recognize that the vertical intercept of the demand curve is under control of the railroad, not merely the price.
- It is profit maximizing to set prices for some shippers in which you make no sales.



# Reasonable is not efficient

- The ICC seemed to have the idea of a private track network made to act like a public system.
- The system should be neutral and not used to pick winners and loser.
- So rates need not reflect costs.
  - Rates must allow shippers to reach markets.
  - Shippers were given the right to choose the route of their shipments.
    - So carriers other than the one to whom you were connected were relevant to you.



# Regulation a success in 1920's

- A system designed to serve the problems of 19<sup>th</sup> century America.
- A system that was vastly overextended.
- Standard Oil was being broken up.
- Telephones were just beginning to be used.
- Modern logistics had not yet been invented.
- The emphasis was on rates, not on service.



# Truckers were given system maps

- Same system of rate equalizations.
- No hint of efficiency as a goal.
- Not really a concern with equity, but rather a concern that the transportation system be neutral.
  - Carriers could not themselves exploit customers.
  - Customers could not use the transportation system to exploit carriers or each other.



# Consequences of neutrality

- Example 1: a skepticism towards innovation.
  - The ICC refused giving lower rates for grain shipments in larger cars because there were shippers who were not on tracks that could support the heavier equipment.
  - Skeptical of giving rate breaks to encourage shippers to use unit trains rather than individual cars.
- The ICC saw itself as making it possible for time not to move from the 1920's.



## Example 2 of neutrality focus

- In the 1970's, trucking companies wanted to provide expedited service with delivery guarantees.
- The ICC forbade them from offering such a service.
- It would involve charging different rates to different customers for the same commodity-origin-destination triad.
- Some customers might be disadvantaged by not getting the same service as others.
- It might be a back-door way of giving rate breaks.



# One price, one service for all

- The focus of transportation regulation was on reasonable prices.
- A reasonable price was one that was not out-of-line with those charged to competing shippers.
- Not the same per ton-mile, but of a traditional relationship to competing shippers' price per ton.
- So the focus was not on rate levels but on rate comparison.



# Minimum rate regulation

- Implicit in rate-to-rate test of reasonableness
  - Equally as damaging that someone else got a low rate as you getting a high rate.
  - Regulatory effort on reasonableness was heavily on the down side.
    - A low rate might harm railroad profits
    - A low rate harm competing shippers
- The ICC wanted railroads to raise rate levels while preserving traditional rate relationships.
- So low rates to move Yak fat were a threat to all.



# Frozen in amber

- The modern logistics are incompatible with ICC regulation.
- It gave huge profits to trucking companies
  - Gave generous wages to teamsters
  - Who, under Jimmy Hoffa, became conservative: favoring the status quo; favoring regulation, entry restrictions, and Republicans.
- It bankrupted railroads
  - But only when they were nationalized did it cause discomfort in Washington.



# The Regulatory Transition

- What caused the change in regulation?
  - Teamsters tried to bribe Senators
  - Democrats considered Teamsters to be enemies.
- Revolution from within.
  - Darius Gaskins, Alfred Kahn
  - Promise of greater efficiency reducing price pressures during a time of inflation.
  - And the threat of nationalization



# Regulatory takings and givings

- Deregulation of surface freight involved regulatory takings on the truck side.
- But there really were regulatory givings on the railroad side.
- In retrospect, one of the most important was the closing of interchanges.
- Had the effect of eliminating Lake Michigan car ferries and consolidating traffic as carriers decided routings.



# New regulatory criteria

- In the same way that the Interstate Commerce Act was updated by the Transportation Act of 1920, the Staggers Act was updated by the 1996 ICC termination act.
- The following regulatory criteria were from the 1996 Act, attempting to explain what criteria the new Surface Transportation Board was to use in making its decisions.



# Regulatory Criteria Part I

1. Allow, to the maximum extent possible, competition and the demand for services to establish reasonable rates for transportation by rail;
2. Minimize the need for Federal regulatory control over the rail transportation system and to require fair and expeditious regulatory decisions when regulation is required;
3. Promote a safe and efficient rail transportation system by allowing rail carriers to earn adequate revenues, as determined by the Board;
4. 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;
5. Foster sound economic conditions in transportation and to ensure effective competition and coordination between rail carriers and other modes;
6. Maintain reasonable rates where there is an absence of effective competition and where rail rates provide revenues which exceed the amount necessary to maintain the rail system and to attract capital;



# Regulatory Criteria Part 2

7. Reduce regulatory barriers to entry into and exit from the industry;
8. Operate transportation facilities and equipment without detriment to the public health and safety;
9. Encourage honest and efficient management of railroads;
10. Require rail carriers, to the maximum extent practicable, to rely on individual rate increases, and to limit the use of increases of general applicability;
11. Encourage fair wages and safe and suitable working conditions in the railroad industry;
12. Prohibit predatory pricing and practices, to avoid undue concentrations of market power, and to prohibit unlawful discrimination;
13. Ensure the availability of accurate cost information in regulatory proceedings, while minimizing the burden on rail carriers of developing and maintaining the capability of providing such information;
14. Encourage and promote energy conservation; and
15. Provide for the expeditious handling and resolution of all proceedings required or permitted to be brought under this part.



# The premise of deregulation

- For most shippers, trucking provided sufficient protection from private market power.
  - There was no longer a need to make sure that traffic could “move.”
- Whole classes of traffic were exempt.
  - Anything moving in a box car was exempt.
- But there were some pockets: Coal, Grain, Ores, Aggregates, Chemicals, Paper, petroleum.
  - But this is the core of what railroads now carry.



# Secret contracts

- Shippers and carriers were free to negotiate secret contracts.
  - Signing such a contract exempted the movement from regulatory oversight.
- But railroads remained common carriers.
  - They must quote a tariff rate for any movement where the shipper does not sign a contract.
  - These tariff rates must be reasonable.



# Rate Reasonableness under Staggers

- How to you determine a rate that is unreasonably high using a one sided test?
- Why not use costs rather than rates?
  - Note that in 1920, this was not considered feasible or desirable.
  - But a hubris that we now could measure costs well enough to use costs for maximum rates for individual movements
  - The economists who developed the theory, were not steeped in the economics of transportation.



# The three step criterion

- Step 1: A rate cannot be unreasonable if it is less than 180% of “variable cost.” (A number written into law.)
- Step 2: A rate cannot be unreasonable if a shipper has a plausible alternative.
  - This usually means showing that there are other railroads, or water transport available
    - At times, showing that a railroad’s rate making was limited by product or geographic competition was sufficient.
- Step 3: Is the rate above the “standalone cost?”

# Standalone cost

- A shipper must develop plans for a free standing railroad to carry the freight in question.
  - New tracks and rights of way are expected (!)
- It can then nominate existing traffic of the carrier and get the net revenue from that traffic to help pay for the hypothetical new line.
  - So called, “crossover traffic.”
- This calculation is made by subtracting the URCS variable cost from the price paid by the other freight, multiplied by the quantity of freight.



# Illogical for use by small shippers

- The focus on building new railroad lines to carry existing traffic was developed for coal mine to power plant movements.
- Chemicals and agriculture shipments tend to have many different destinations and smaller quantities to each destination.
- And of course, small shippers cannot contemplate building lines for themselves.



# Simplified methods

- For these situations, three other methods were developed.
- All depend on making calculations of proxies based on  $(P\text{-Variable Cost}) * \text{Quantity}$ .
- So the validity depends crucially on the accuracy of the variable cost calculations.
- The simplified methods have been criticized by shippers as not meaningful to them.



# URCS

- You would be surprised what is in URCS
- URCS numbers are usually called “variable cost.”
- But it contains many elements that are typically thought of as fixed.
  - For example, “the cost of capital” is applied to the depreciated value of rolling stock and some track and allocated through URCS.
- URCS is a cost allocation system and does not correspond to the economist’s concept of costs.



# Joint and common costs

- For more than a century, railroad costing using company accounts has been seen as impractical as a guide to pricing.
- Railroad costs are dominated by
  - Joint Costs
  - Common Costs
  - Fixed Costs
- Economic theory only allows us to define:
  - Incremental Cost
  - Marginal Cost



# URCS problems

- URCS starts from account expenditures
  - Regressions were used to calculate the extent to which expenditures in a class vary with traffic levels.
- Expert judgments on how other expenditure categories should be allocated:
  - 50% of road expenditures on capital are variable?
  - Some engineering studies used that are decades old.
- Make-whole contrivances to redistribute unallocated costs.



# A crude average

- URCS is ambiguous about the duration of the short run for which costs are variable.
- It is claimed not to be accurate for individual movements, but is supposed to be a system-wide average.
- (But note that it IS used to evaluate the reasonableness of individual rates!)



# URCS logically is not AVC

TABLE 3-1 Percent of Ton-Miles by R/VC Category,  
Selected Years, 2001–2012

	R/VC < 100%	100% ≤ R/VC < 180%	180% ≤ R/VC < 300%	R/VC ≥ 300%
Study Committee Review, 2012				
Nonexempt	16	56	24	4
Tariff	4	60	31	5
Contract	19	55	21	4
Exempt	30	57	11	1
Total	20	57	20	3

# The Railroads do not use URCS

- Operating companies have far more sophisticated and accurate measures.
- So why are we using URCS to limit railroad rates?
  - We aren't, really.
  - We are using a tool that is thoroughly inaccurate and railroads know it, but are happy not to criticize it since the measure works to not limit their business practice.



# 18 years of STB decisions

TABLE 3-2 Rate Disputes Adjudicated by STB  
on the Basis of SAC, 1996–2014

Disposition	Coal	Grain	Minerals	Chemical
Rate reasonable	7 <sup>a</sup>	1	0	2
Rate unreasonable	7	0	1	0
Settlement	21 <sup>a</sup>	0	0	3
Withdrawn	2	0	0	0
Total	37 <sup>a</sup>	1	1	5

<sup>a</sup> One SAC case was originally ruled as rate reasonable, but the case was readjudicated after a court remand and subsequently settled.

SOURCE: STB ([http://www.stb.dot.gov/stb/industry/Rate\\_Cases.htm](http://www.stb.dot.gov/stb/industry/Rate_Cases.htm)).

# Costs and reparations

- A widely accepted estimate is that it costs \$5 million to bring a rate case before the STB.
- The remedy for a finding of rate unreasonableness is “reparations” or a refund of the excessive amount of the rate.
- Each case is separate since each shipping situation requires engineering a different hypothetical railway for the traffic at issue.
- The Benefit/Cost ratio for this process is surely close to zero.

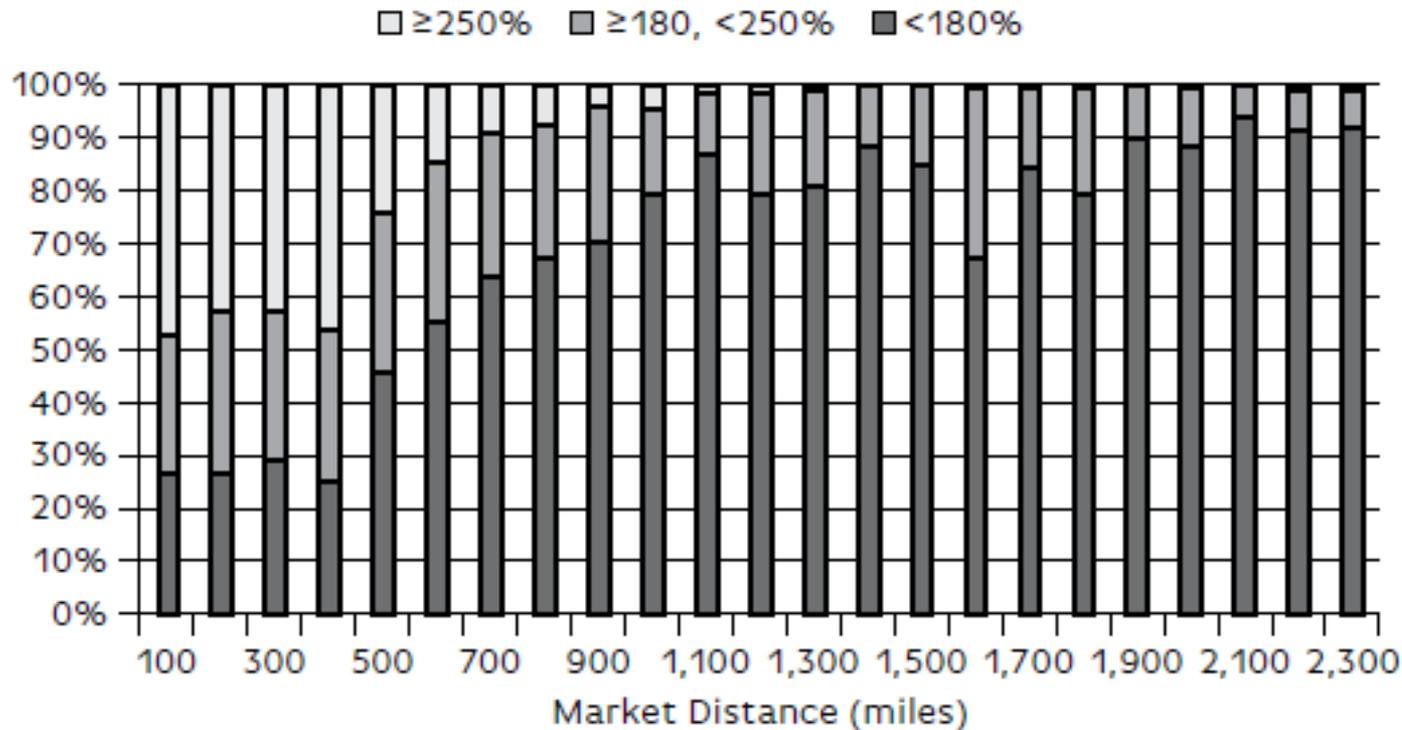


# Perhaps improve URCS?

- So awful, that almost anything would improve it.
- But it remains an allocation scheme.
- And it continues to give numbers that make no sense for pricing individual movements.
  - No allowance for backhauls
  - No allowance for the scarcity of cars
  - Nothing for congestion
  - No allowance for service quality
  - No allowance for extra costs of hazardous materials.



# R >> AVC is mainly short-haul



**FIGURE 3-1** Share of nonexempt traffic (ton-miles) by selected R/VC ratios, 2012. (Source: 2012 CWS.)



# Why do we need URCS?

- Its prominence is due to the fact that we have changed the regulatory standard to a price/variable cost comparison.
- For the same reason we do not use price/variable cost comparisons to set prices for telecommunications, we should not do it for railroads.
- Costs useful for pricing are simply unrecoverable from public data.



# The NAS recommends a half step back

- The concept of rate reasonableness has long been associated with rate comparisons.
- The concept is still used in the most recent charge to regulators.
- So why not return part way to the techniques used for centuries?
- However, have it used strictly as a one sided test, preventing its use for minimum rate regulation



# Benchmarking competitive rates

- The NAS committee recommends identifying potentially unreasonable rates as those that are higher than we would expect based on a sample of shipments that appear to have their rates made in competitive market conditions.
- Benchmark group:
  - Shipments exempt through car type or commodity.
  - Contract shipments with rail option within 10 miles of origin and destination or water origins and destinations within 50 miles on same waterway.



# Regress $\ln(\text{Rev per tn mi})$ on $\ln()$

- Shipment distance
- Number of cars
- Number of railroads involved
- Number of Class I railroads within 10 miles of origin
- Number of Class I railroads within 10 miles of destination
- Dummy for car ownership
- Dummy for presence of water option
- Distance to origin port
- Distance to destination port



# Benchmarking Exercise, Coal

TABLE B-5 Benchmark Models: Coal

Variable	OLS	Quantile			
		0.25	0.5	0.75	0.9
ln(distance)	-0.436 (0.00201)	-0.362 (0.00132)	-0.446 (0.00128)	-0.510 (0.00148)	-0.527 (0.000850)
ln(cars)	-0.114 (0.00153)	-0.111 (0.000684)	-0.112 (0.000634)	-0.113 (0.000701)	-0.103 (0.000821)
ln(number of railroads)	-0.0703 (0.00619)	-0.0994 (0.00319)	-0.0871 (0.00409)	0.135 (0.00437)	0.213 (0.00504)
No. of Class I within 10 mi of origin	-0.0899 (0.00104)	-0.0807 (0.000464)	-0.0965 (0.000541)	-0.101 (0.00109)	-0.0952 (0.00136)
No. of Class I within 10 mi of destination	-0.0468 (0.000902)	-0.0481 (0.000616)	-0.0521 (0.000689)	-0.0429 (0.000653)	-0.0418 (0.000644)
West (binary)	-0.265 (0.00833)	-0.346 (0.00430)	-0.235 (0.0114)	-0.0335 (0.00459)	-0.0400 (0.00988)
Nowater (binary)	0.204 (0.00901)	0.166 (0.00425)	0.203 (0.00427)	0.273 (0.00556)	0.160 (0.00706)
ln(mi from origin to port)	0.0299 (0.00145)	0.0235 (0.000901)	0.0275 (0.000657)	0.0414 (0.000977)	0.0112 (0.00125)
ln(mi from destination to port)	0.0257 (0.000825)	0.0279 (0.000679)	0.0280 (0.000453)	0.0290 (0.000692)	0.0249 (0.000607)
Private car (binary)	-0.124 (0.00297)	-0.115 (0.00204)	-0.104 (0.00213)	-0.0671 (0.00208)	-0.107 (0.00206)
Observations	289,718	289,718	289,718	289,718	289,718
R <sup>2</sup>	0.785				

# NAS exercise is proof-of-concept

- The STB should be directed to determine what regressors should be used.
- The STB should choose the cut-off point below which a shipper cannot pursue a claim that the rate is unusually high.
- (And of course, absolutely no possibility of claiming that a competitor's rate is unreasonably low.)



# Compare actual to benchmark Rates

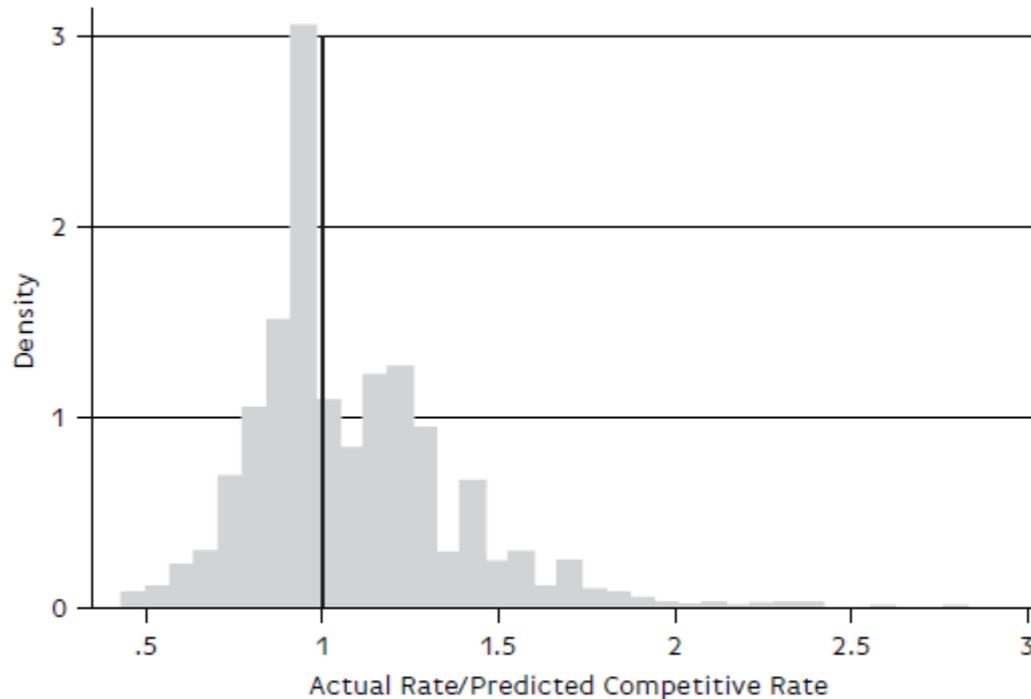


FIGURE B-4 Distribution of ratios of actual to predicted rates, nonbenchmark sample, coal, ratios greater than 3 excluded.



## Step 2 in recommendation

- There may be circumstances that would explain why a rate is so high.
- Allow the railroad to make a case. For example,
  - Backhauls, Congestion, Shortage of equipment, Priority service, hazardous materials, the need to make a profit on this movement.
- The shipper and railroad dispute then arbitrated.
  - One possible remedy for an unreasonable rate might be to allow a shipper to use service from another carrier.



# Other recommendations

- The replacement of the Three Step process for determining rate reasonableness was the central recommendation of the NAS report.
- There were several other recommendations that also followed from this one.



# Is common carriage still appropriate?

- Truckers can pick and choose their customers. Railroads cannot.
- Railroads must quote a price if asked.
  - They may run into trouble with the 180% rule.
    - The NAS proposal proposes arbitration for otherwise unexplainably high rates.
- But what does common carriage mean when service quality is not specified?



# Common Carriers and service quality

- But common carrier standards in modern logistics requires that you measure service quality.
- No current data for the railroad industry to do that.
  - Dried pea farmer in Montana missed his shipping slot to Asia when his car sat on a siding for weeks.
- The committee proposed requiring railroads to report service quality data of the form currently collected for airlines.
- Much other data is antiquated and useless.

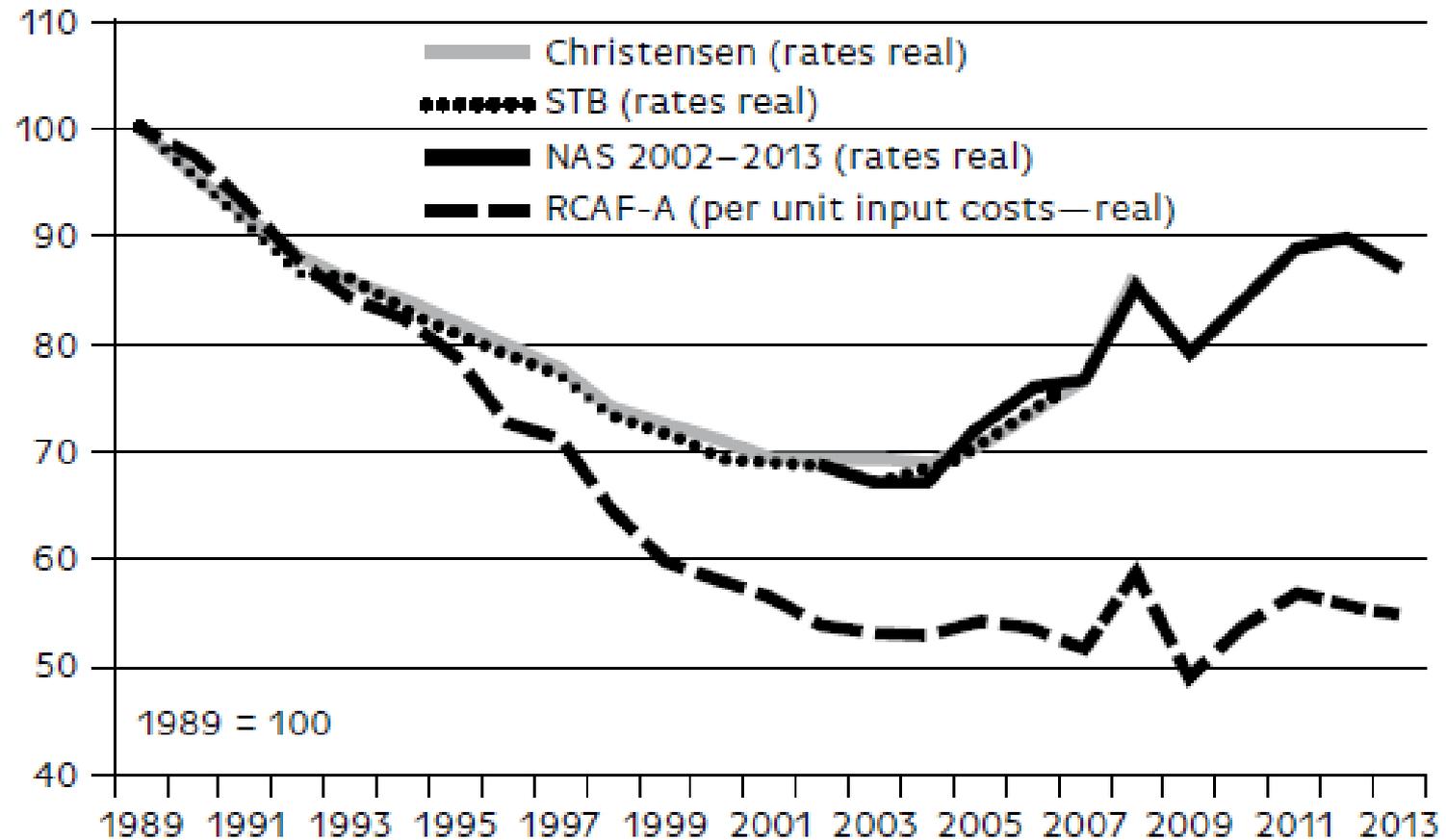


# Rate levels and reasonableness

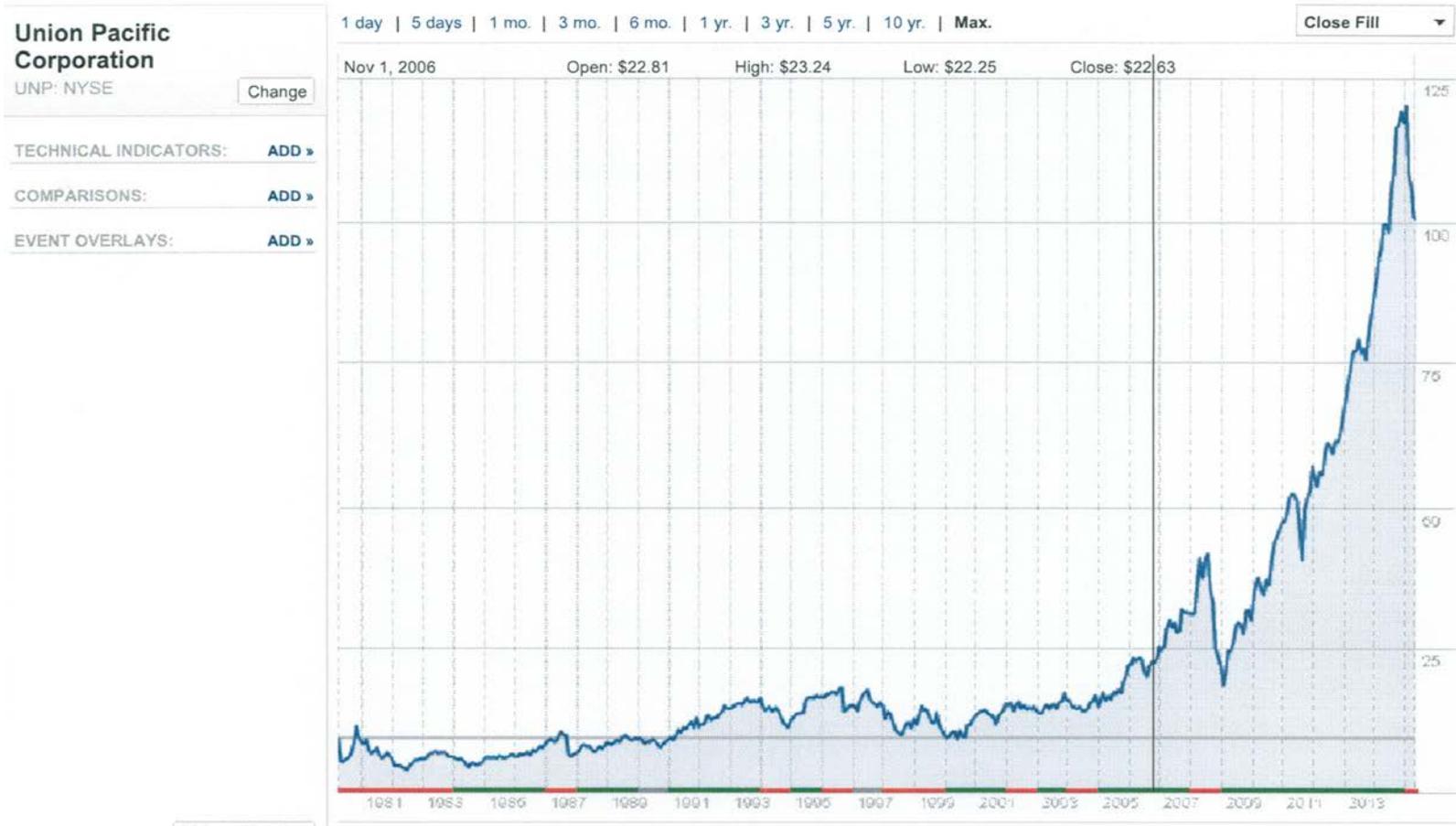
- The committee was firmly convinced that rate-to-rate comparisons were preferable to rate-to-cost comparisons for evaluating rate reasonableness.
  - This is a half step back to the regulatory tradition.
- But old style regulation distinguished between rate levels and rate structure.
  - The ICC cared deeply about rate structure.
  - They did not care about rate levels and preferred higher levels to ameliorate profitability problems.



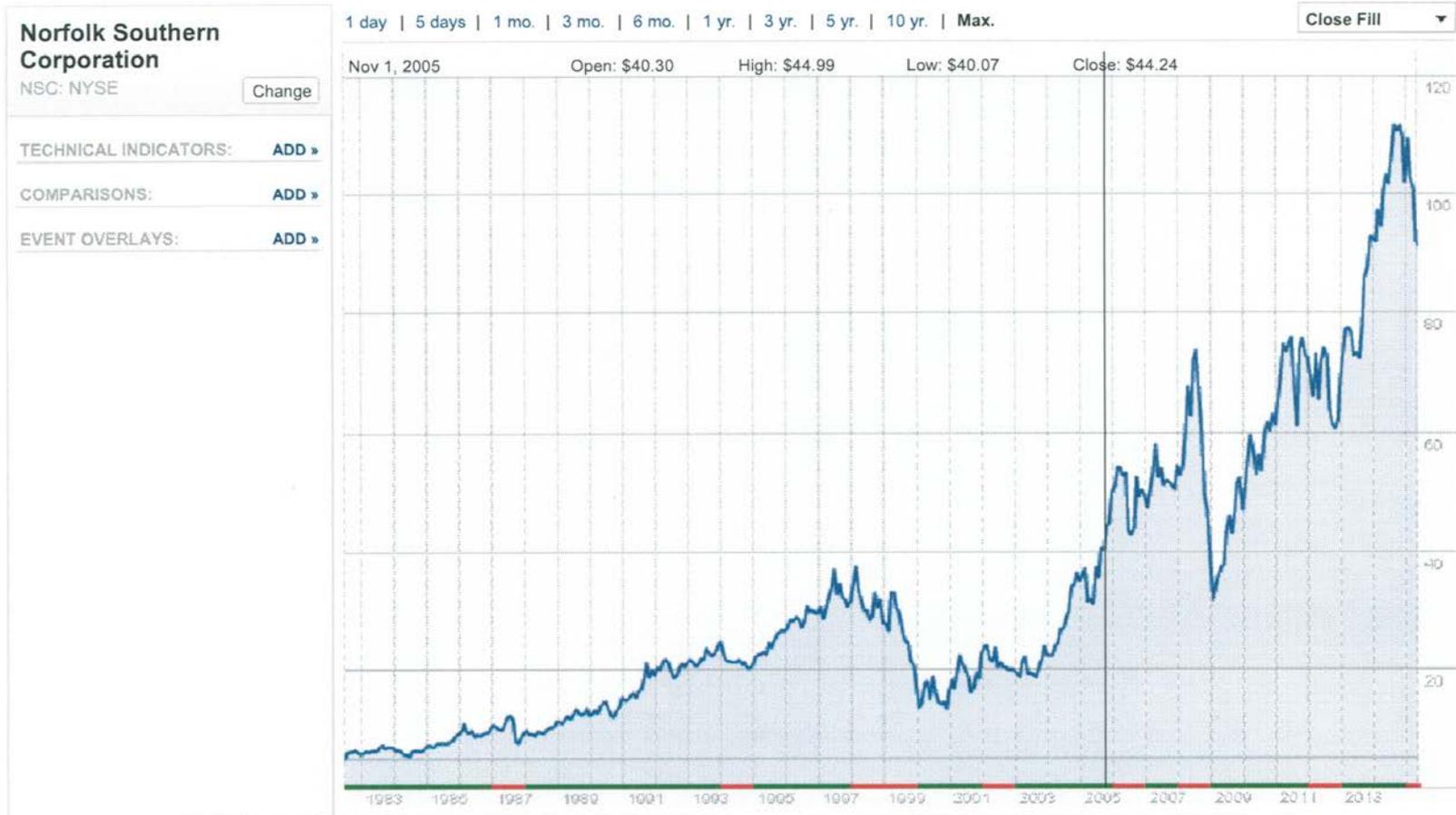
# Real Rate Trends



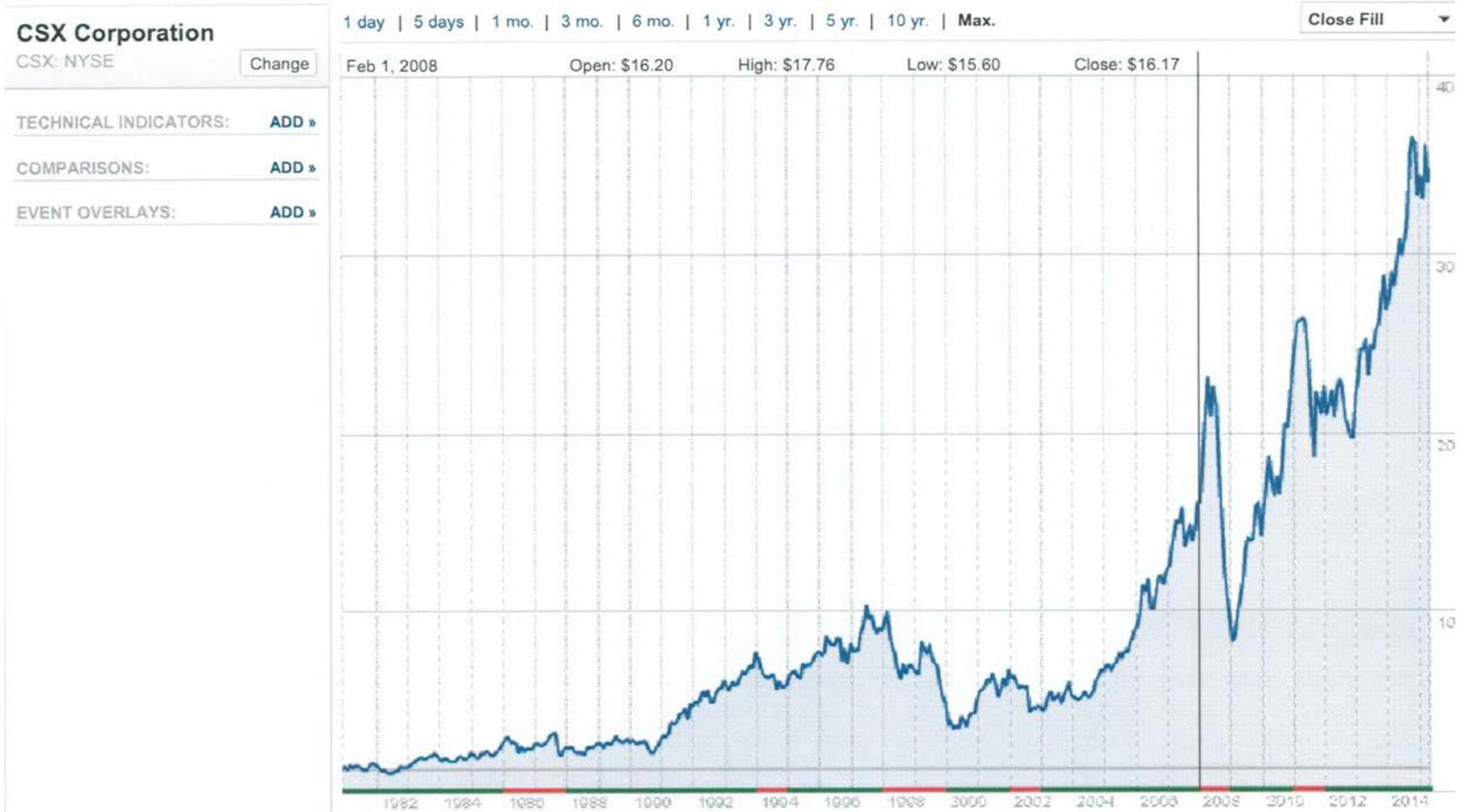
# Union Pacific 1980-2015



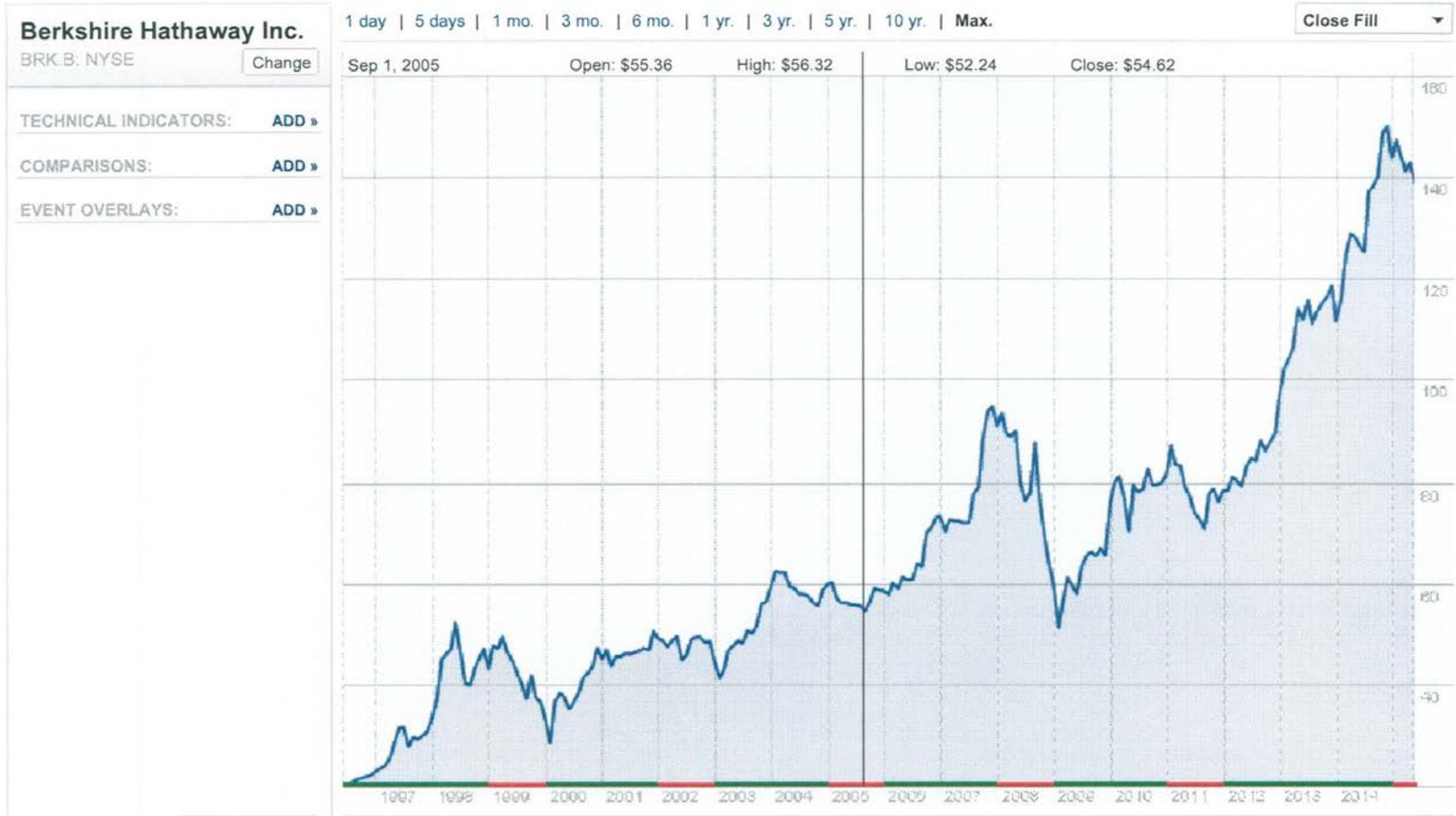
# Norfolk Southern 1980-2015



# CSX 1980-2015



# BNSF 1997-2015



# How to deal with excess(!) profits?

- Today's railroad financial state was not anticipated in 1980.
- For more than 100 years, the question was how to cover costs, not what to do with excess profits.
- For example, the ICC allowed unilateral closure of traffic interchange points in order to bolster railroad profitability.
- By regulatory fiat, it gave carriers a property right in shipments made by individual shippers.



# The right to route your freight

- Until 1980, shippers had the right to route their own freight.
- Pay the class rate for a short distance to an interchange point, then force the railroad to turn over freight to a different carrier.
- This allowed shippers to negotiate with other carriers than the one to which they were connected.
- It allowed for limited intramodal competition.



# Closing of interchange points

- Made shippers wholly captive to the railroad to which they were attached.
- It increased the bargaining power of carriers.
- It allowed the carriers to route traffic to take advantage of economies of density on individual routes.
  - It accelerated abandonments of track.
- It was designed to increase railroad profitability.
- A regulatory giving?



# Ominous language

1. Allow, to the maximum extent possible, competition and the demand for services to establish reasonable rates for transportation by rail;
2. Minimize the need for Federal regulatory control over the rail transportation system and to require fair and expeditious regulatory decisions when regulation is required;
3. Promote a safe and efficient rail transportation system by allowing rail carriers to earn adequate revenues, as determined by the Board;
4. 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;
5. Foster sound economic conditions in transportation and to ensure effective competition and coordination between rail carriers and other modes;
6. Maintain reasonable rates where there is an absence of effective competition and where rail rates provide revenues which exceed the amount necessary to maintain the rail system and to attract capital;



# Threat of rate-of-return regulation

- The current regulatory statutes did not anticipate that railroads might have excess profitability.
- They seem to suggest (point 6) that different criteria will be used.
- This opens the possibility of rate-of-return regulation.
- It reopens the question of intra-modal competition within the railroad industry.
- For example: giving merger authority to STB



# Antitrust vs public interest criteria

- Railroad merger evaluation traditionally has not focused solely on competitive aspects.
  - The STB has been willing to listen to arguments on a broader public interest standard.
- The STB, like the ICC before it has always been of two minds on the desirability of competition.
- The committee was far more comfortable with the idea of competition as workable in the industry. We thus want to turn mergers over to DOJ.



# Rate limits with long-run profits?

- The NAS proposal, in moving away from basing rates on un-measurable costs, deals with the rate structure problem.
- We were thoroughly unimpressed by the cost-of-capital calculations done by the STB and did not want to rely on them to limit rates.
- We wanted to stay far away from rate-of-return regulation.



# Calculating revenue requirements

- The cost of capital calculations (or revenue requirements) are part of a rate-of-return regulatory tradition. We did not want to go there.
- We suggested that the calculation be done infrequently and with broader perspective than is currently used.
  - For example, is bond market open to railroads?
- Essentially, we suggested that in ten years, the issue of aggregate revenues be revisited.



# A guess about the future

- The report focuses the problem on individual rates that are too high rather than out-of-line.
    - It punts on whether rate *levels* are too high.
  - But it still does not allow for robust supply chains through multiple logistics partners.
  - It still limits entrepreneurial activity in the industry to a handful of individuals.
  - Without entry to discipline sellers, buyers are dependent on the goodwill (or reputation concerns) of sellers.
- 

# Desirability of competition

- Consumer choice is fundamental to market power.
- Railroad customers now have no choice of which railroad will carry their freight.
  - An almost exact correspondence with the recent network neutrality discussion.
  - Yes, consumer can always use dial-up (trucks) but if a shipping situation calls for railroads, consumers have no choice of which phone number to call.
  - Thus the need to put in rules to protect customers.



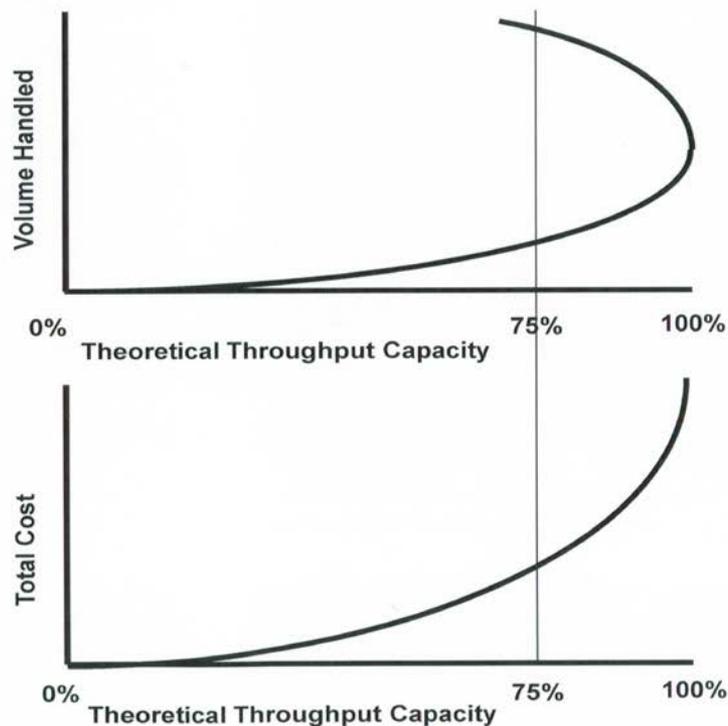
# Railroad economics in 2016

- All railroad regulation prior to 19890 had been premised on
  - Natural Monopoly
  - Excess Capacity
  - Density Economics
  - Inability of cost-based pricing to cover fixed costs
- But concerns about “network fluidity” say that these issues are no longer a matter of concern





## Volume Must be Carefully Managed to Maintain a Fluid Network



- As volume on rail networks approaches 100% of theoretical capacity, fluidity of the network deteriorates.
- If volume offered exceeds 100% of theoretical capacity, maximum throughput capability actually declines.
- “Comfortable” capacity is generally about 70% to 80% of maximum theoretical capacity.
- Both total and average unit cost increases rapidly after “comfortable” capacity is exceeded.

# The Pre-Staggers Industry is Dead

- Every part of the railroad industry is profitable.
- Excess capacity has been eliminated.
  - It is no longer the case that marginal (full) cost pricing (correctly calculated) is inherently ruinous.
  - The natural monopoly problem has been solved.
  - The need to use extraordinary measures to cover fixed costs is no longer needed.



# Infrastructure

- In airlines, road transport, and water transport, carriers do not own their infrastructure.
- Public policy in coming decades will want to make more use of the railroad rights of way.
  - Perhaps for passenger service
  - Perhaps to move freight off of the highways.
- The public discussion does not recognize an unlimited right of private property in rights of way.
- The railroad industry is politically vulnerable.



# A look in a cloudy crystal ball

- The absolute prohibition of consumer choice is not sustainable in the long run.
- Public policy will move towards permitting entry on the network.
  - Remember that the track network is what we think of as the railroad industry. There may be a few more additions, but basically the question is how the country will use the rights of way constructed in the 19<sup>th</sup> century.
- After separation, no need for regulation.
- A new golden age of railroads on the horizon?

