

Union Pacific Net Revenue Adequacy -- 2009 to 2014 Business Cycle
(Dollars in 000s)

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	<u>Year</u>	<u>Cost of Capital 1/</u>	<u>Tax Adjusted (Shortfall)/ Surplus 2/</u>	<u>Present Value of Tax Adjusted (Shortfall)/Surplus 3/</u>
	(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.	Totals <u>4/</u>	xxx	\$7,137,206	\$7,638,319
8.	Average <u>5/</u>	xxx	xxx	\$1,273,053

- 1/ Annual current cost of capital based on the STB Ex Parte No. 558, *Railroad Cost of Capital* decisions and filings.
- 2/ For Years 2009 to 2013, UP tax adjusted revenue shortfalls and surpluses from the Board's Revenue Shortfall Allocation Method ("RSAM") calculations. 2014 based on UP's 2014 Schedule 250, Line 13 average Net Investment Base $[(\$29,488,430 + \$31,421,908) \div 2 = \$30,455,169]$, UP's 2014 Schedule 250, Line 5 Net Railway Operating Income (\$5,284,484), the AAR's estimate of the 2014 railroad cost of capital (10.65%), the AAR's calculation of the UP's 2014 weighted average state tax rate (5.885%), and the statutory Federal Tax rate of 35%. The specific calculation is as follows: $[\$5,284,484 - (\$30,455,169 \times 10.65\%)] \div \{1 - [5.885\% + (1 - 5.885\%) \times 35\%]\} = \$3,336,358$.
- 3/ Column (3) compounded to 2014 price levels based on Column (1) year and Column (2) costs of capital. Specifically, $\text{Column (3)} \times [(1 + \text{Column (2) cost of capital})^{(2014 - \text{Column (1) year})}]$.
- 4/ Sum of Lines 1 to 6.
- 5/ Simple average of Lines 1 to 6.

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

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

	Shipper	Base						Hypothetical Adjustments				Actual Adjustments	
		Rates 7/ (1)	Costs 7/ (3)	Tons (000s) 7/ (4)	Total Revenue (000s) 8/ (5)	R/VC Ratio 9/ (6)	Price-Cost Margin 10/ (7)	Price-Cost Margin 11/ (8)	Rates 12/ (9)	R/VC Ratio 13/ (10)	Total Revenue (000s) 14/ (11)	R/VC Ratio (12)	Total Revenue (000s) (13)
7.	A	\$7.00	\$3.00	1,000,000	\$7,000,000	233.3%	57.1%	54.3%	\$6.57	219.1%	\$6,571,562	219.1%	\$6,571,562 <u>17/</u>
8.	B	\$11.00	\$5.00	500,000	\$5,500,000	220.0%	54.5%	51.9%	\$10.39	207.8%	\$5,195,167	220.0%	\$5,500,000
9.	C	\$10.00	\$4.00	500,000	\$5,000,000	250.0%	60.0%	57.1%	\$9.32	232.9%	\$4,658,334	250.0%	\$5,000,000
10.	D	\$8.50	\$4.50	200,000	\$1,700,000	188.9%	47.1%	44.8%	\$8.15	181.0%	\$1,629,189	188.9%	\$1,700,000
11.	E	\$8.00	\$6.00	100,000	\$800,000	133.3%	25.0%	25.0%	\$8.00	133.3%	\$800,000	133.3%	\$800,000
12.	F	\$8.00	\$7.00	100,000	\$800,000	114.3%	12.5%	12.5%	\$8.00	114.3%	\$800,000	114.3%	\$800,000
13.	G	\$3.23	\$7.00	<u>952,888</u>	<u>\$3,076,553</u>	46.1%	-116.8%	-116.8%	\$3.23	46.1%	<u>\$3,076,553</u>	46.1%	\$3,076,553
14.	Total <u>15/</u>	xxx	xxx	3,352,888	\$23,876,553	xxx	xxx	xxx	xxx	xxx	\$22,730,805	xxx	\$23,448,115
15.	Difference <u>16/</u>	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	\$0	xxx	\$717,310

1/ UP 2014 Annual Report R-1, Schedule 210, Line 10(b).

2/ Attachment No. 1, Column (4), Line 8

3/ Assumed percentage of aggregate excess returns provided by potentially captive shippers.

4/ Line 2 x Line 3.

5/ Line 1 - Line 4.

6/ Adjusts potentially captive shippers' price-cost margins, hypothetically allocating the available surplus in Line 4 across all potentially captive shippers.

7/ Assumed values.

8/ Column (2) x Column (4).

9/ Column (2) ÷ Column (3).

10/ 1- [Column (3) ÷ Column (2)].

11/ If Column (6) is greater than 180%, then Column (7) x Line 6, else Column (7).

12/ Column (3) ÷ [1 - Column (8)].

13/ Column (9) ÷ Column (3).

14/ Column (9) x Column (4).

15/ Sum of Lines 7 to 13.

16/ Line 14, Columns (11) and (13) - Line 5, respectively.

17/ Assuming Shipper A is the complaining shipper, its revenue is equal to the adjusted revenue from Column (11). All other shipper revenue remains the same as shown in Column (5).

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

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

		Base					Hypothetical Adjustments			Actual Adjustments	
				Tons	Total	R/VC		Total		Total	
Shipper 5(a)/	Rates 7/	Costs 7/	(000s) 7/	Revenue	Ratio 9/	R/VC	Rates 11/	Revenue	R/VC	Revenue	
(1)	(2)	(3)	(4)	(000s) 8/	(6)	Ratio 10/	(8)	(000s) 12/	Ratio	(000s)	(11)
						(7)		(9)	(10)		
7.	A	\$7.00	\$3.00	1,000,000	\$7,000,000	233.3%	218.1%	\$6.54	\$6,541,701	218.1%	\$6,541,701 15/
8.	B	\$11.00	\$5.00	500,000	\$5,500,000	220.0%	218.1%	\$10.90	\$5,451,417	220.0%	\$5,500,000
9.	C	\$10.00	\$4.00	500,000	\$5,000,000	250.0%	218.1%	\$8.72	\$4,361,134	250.0%	\$5,000,000
10.	D	\$8.50	\$4.50	200,000	\$1,700,000	188.9%	188.9%	\$8.50	\$1,700,000	188.9%	\$1,700,000
11.	E	\$8.00	\$6.00	100,000	\$800,000	133.3%	133.3%	\$8.00	\$800,000	133.3%	\$800,000
12.	F	\$8.00	\$7.00	100,000	\$800,000	114.3%	114.3%	\$8.00	\$800,000	114.3%	\$800,000
13.	G	\$3.23	\$7.00	<u>952,888</u>	<u>\$3,076,553</u>	46.1%	46.1%	\$3.23	<u>\$3,076,553</u>	46.1%	<u>\$3,076,553</u>
14.	Total 13/	xxx	xxx	3,352,888	\$23,876,553	xxx	xxx	xxx	\$22,730,805	xxx	\$23,418,254
15.	Difference 14/	xxx	xxx	xxx	xxx	xxx	xxx	xxx	\$0	xxx	\$687,449

1/ UP 2014 Annual Report R-1, Schedule 210, Line 10(b).

2/ Attachment No. 1, Column (4), Line 8

3/ Assumed percentage of aggregate excess returns provided by potentially captive shippers.

4/ Line 2 x Line 3.

5/ Line 1 - Line 4.

6/ MMM average R/VC. The ratio is developed through an iterative process such that each movement's R/VC is equal to the lower of the MMM R/VC or the movement's actual R/VC and the UP Required Revenue from Line 5 equals the Total Adjusted Revenue From Line 14, Column (9).

7/ Assumed values.

8/ Column (2) x Column (4).

9/ [Column (2) ÷ Column (3)] x 100.

10/ The lower of the MMM R/VC from Line 6 or each movement's R/VC from Column (6).

11/ Column (3) x Column (7).

12/ Column (4) x Column (8).

13/ Sum of Lines 7 to 13.

14/ Line 14, Columns (9) and (11) - Line 5, respectively.

15/ Assuming Shipper A is the complaining shipper, its revenue is equal to the adjusted revenue from Column (9). All other shipper revenue remains the same as shown in Column (5).