

ASSOCIATION
OF AMERICAN
RAILROADS

John T. Gray
Senior Vice President - Policy & Economics

December 4, 2015

The Honorable Cynthia T. Brown
Chief, Section of Administration
Office of Proceedings
Surface Transportation Board
395 E Street, SW
Washington, DC 20423-0001

Dear Ms. Brown:

This submission is the AAR forecast of the first quarter 2016 All-Inclusive Index and Rail Cost Adjustment Factor, filed in Ex Parte No. 290 (Sub-No. 5) (2016-1) *Quarterly Rail Cost Adjustment Factor*. The versions of RCAF-related indices covered in this filing are: the All-Inclusive Index (initiated in the second quarter of 1985), the Unadjusted RCAF (produced since October 1982), the Adjusted RCAF (first published in the second quarter of 1989), and the RCAF-5 (created by the STB in its Ex Parte No. 290 (Sub-No. 7) decision served October 3, 1996). The table below summarizes the first quarter 2016 results on the fourth quarter 2012 base, and shows the percentage changes from the previous quarter.

	<u>2015Q4</u>	<u>2016Q1</u>	<u>% Change</u>
All-Inclusive Index	88.5	88.2	-0.3
Preliminary RCAF	0.885	0.882	-0.3
Forecast Error Adjustment	-0.023	-0.018	
RCAF (Unadjusted)	0.862	0.864	0.2
Productivity Adjustment Factor	2.3462	2.3502	
RCAF (Adjusted)	0.367	0.368	0.3
PAF-5	2.4890	2.4932	
RCAF-5	0.346	0.347	0.3

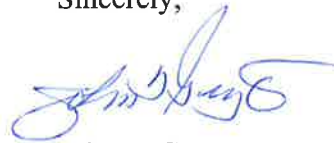
Page 2

December 4, 2015

In its October 3, 1996 decision in Ex Parte No. 290 (Sub-No. 7), *Productivity Adjustment - Implementation*, the STB noted its intent to publish, in addition to the RCAF (Unadjusted) and RCAF (Adjusted), an RCAF-5 (i.e., a calculation of the productivity adjusted RCAF values as if the agency had always used a 5-year rolling average to calculate the productivity adjustment). In response to a request by STB staff, the AAR is including a calculation of the RCAF-5 in its quarterly RCAF filing. The AAR and its members, however, do not believe the publication of a third RCAF index is required or permitted by the applicable statute (49 U.S.C. § 10708) and do not endorse its publication.

Our quarterly non-proprietary work papers underlying this submission are e-filed herewith, in accordance with the ICC's order in Ex Parte No. 290 (Sub-No. 2), *Railroad Cost Recovery Procedures*, served February 8, 1990. We have notified Pedro Ramirez, in the STB office handling this proceeding, of our plan to e-file the submission and non-proprietary work papers. A second copy of the submission and non-proprietary work papers, plus selected highly confidential work papers, will be hand-delivered to Mr. Ramirez's Data Collection and Auditing Team. All work papers are available for STB inspection. Questions should be directed to me or Clyde Crimmel (202 639-2309) of this office.

Sincerely,



John T. Gray

Attachments

**First Quarter 2016
All-Inclusive Index**

Ex Parte No. 290 (Sub-No. 5) (2016-1)

**Quarterly Rail Cost Adjustment Factor
Surface Transportation Board**

**Policy and Economics Department
Association of American Railroads**

December 4, 2015

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Introduction

On January 2, 1985, the Interstate Commerce Commission (ICC) adopted the All-Inclusive Index as the basis for the Rail Cost Adjustment Factor (RCAF). The quarterly projection of railroad costs, as documented herein, employs the All-Inclusive Index as required by the regulations. Also presented in this submission is the RCAF, both Adjusted and Unadjusted, as required by the ICC in its decision in Ex Parte No. 290 (Sub-No. 4), Rail Cost Recovery Procedures - Productivity Adjustment, served March 24, 1989. In addition, the AAR has included the RCAF-5, which was instituted by a Surface Transportation Board decision served October 3, 1996 in Ex Parte No. 290 (Sub-No. 7), *Productivity Adjustment - Implementation*. The AAR and its members do not believe the additional productivity-adjusted index is required or permitted by the applicable statute, and do not endorse its publication.

This quarter's projection of railroad costs is for the first quarter 2016. Each year's first quarter calculation utilizes new health & welfare rates, which can be found in Appendix A on page 5. New payroll tax rates and maximum taxable earnings are also utilized and listed on page 4 of Appendix A. The 2016 maximum taxable earnings, and tax rates, for Railroad Retirement did not change from 2015.

Index Weights

In the Ex Parte No. 290 (Sub-No. 2) final rules, issued in April 1981, the Interstate Commerce Commission mandated that the weights of each major cost component be updated annually. These "external" weights are calculated using data from Schedules 410 and 210 of the R-1 annual report filed with the Surface Transportation Board by the Class I railroads. The weights are typically updated with the fourth quarter projection.

The 2014 (current) and 2013 (previous) weights are shown below. Weights calculated from 2013 data were used for the fourth quarter of 2014 through the third quarter of 2015. Beginning with the fourth quarter of 2015, weights calculated using 2014 data are used. Fuel and Interest expenses were down in 2014, and those decreases are reflected in their lower weights. Depreciation expenses increased at about double the rate of total expenses, possibly caused by record capital expenditures for new equipment and infrastructure. The weight for Depreciation increased by 0.6 percentage points, as did the weight for Other – which consists of Purchased Services, Taxes (other than income and payroll), Casualties & Insurance, Loss & Damage, and General & Administrative expenses. Other increases were 0.3 for Materials & Supplies, and 0.1 for Labor. Expenses for Materials & Supplies were probably more affected by higher volumes than prices. The weight for Equipment Rents was unchanged.

Weights for RCAF's All-Inclusive Index		
	2014	2013
Labor	31.7 %	31.6 %
Fuel	20.9	22.1
Materials & Supplies	5.2	4.9
Equipment Rents	5.4	5.4
Depreciation	12.6	12.0
Interest	1.5	1.9
Other	22.7	22.1
Total	100.0	100.0

Reweightings of the index is accomplished by calculating both the current quarter (normally the fourth) and prior (normally the third) quarter indexes with the new weights. The relative change between the two quarters is then multiplied times the prior quarter (usually the third) *linked* index. Use of this method ensures that the weight change, by itself, does not cause a change in the level of the All-Inclusive Index.

Internal weights in the labor and equipment rents components are updated at the same time as the external weights. When these weights are changed, they are also linked using the procedure described above in order to eliminate the effect of the change in weighting.

All-Inclusive Index First Quarter 2016

The components and values of the current and previous All-Inclusive Indexes are shown below. Details of the construction of each component of the index are contained in the Appendices.

	2014 Weights	Forecast		Percent Change
		Previous 2015Q4	Current 2016Q1	
1. Labor	31.7%	403.6	417.7	3.5 %
2. Fuel	20.9%	210.8	191.2	-9.3
3. M&S	5.2%	264.8	246.9	-6.8
4. Equipment Rents	5.4%	214.7	214.3	-0.2
5. Depreciation	12.6%	223.5	226.0	1.1
6. Interest	1.5%	57.5	57.5	0.0
7. Other	22.7%	218.2	215.5	-1.2
8. Weighted Average				
a. 1980 = 100		275.9	275.0	
b. 1980 = 100 (linked)		263.4	262.5 ¹	
c. 4Q12 = 100		88.5	88.2 ²	-0.3

¹ Index80 = (Current Index / Previous Index) * the Previous Quarter Linked Index
= (275.0 / 275.9) x 263.4
= 262.5

² To calculate the 4Q12 = 100 index:
Index4Q12 = (Current Linked Index / 4Q12 Basing Factor) * 100
= 262.5 divided by 297.6 times 100
= 88.2

Indexes based on other periods:

- 4Q07 based index = 262.5 / 245.9 x 100 = 106.8
- 4Q02 based index = 262.5 / 192.1 x 100 = 136.6
- 4Q97 based index = 262.5 / 173.2 x 100 = 151.6
- 4Q92 based index = 262.5 / 156.9 x 100 = 167.3
- 4Q87 based index = 262.5 / 132.2 x 100 = 198.6

Forecast vs. Actual All-Inclusive Index Third Quarter 2015

Because of data availability, the forecast error adjustment has a two-quarter lag from each filing. As shown below, the third quarter actual index of 88.8 is 1.8 index points below the forecast value of 90.6. Therefore, the forecast error adjustment for first quarter 2016 is -1.8 index points.

	2013 Weights	Third Quarter 2015		Amt Difference
		Forecast	Actual	
1. Labor	31.6%	404.3	404.3	
2. Fuel	22.1%	246.1	220.1	
3. M&S	4.9%	258.9	258.9	
4. Equipment Rents ¹	5.4%	212.2	214.2	
5. Depreciation	12.0%	221.8	223.8	
6. Interest	1.9%	70.6	70.6	
7. Other	22.1%	215.6	217.5	
8. Weighted Average				
a. 1980 = 100		281.9	276.9	
b. 1980 = 100 (linked)		269.7	264.4 ²	
c. 4Q12 = 100 ³		90.6	88.8	-1.8

Forecast error \longrightarrow **-1.8 index points**

Note: The third quarter actual index rounds to the same number as the second quarter. The second quarter unlinked weighted average is 276.8596, which rounds to 276.9. The third quarter average is 276.9187 before rounding.

1	2013 Weights	Third Quarter 2015	
		Forecast	Actual
Car-Hire	52.8%	191.6	193.3
Lease Rentals	47.2%	215.6	217.5
Weighted Average		202.9	204.7
Weighted Average (linked)		212.2	214.2

² Linked actual index = (actual index / previous actual index) x previous linked actual index.

$$264.4 = 276.9 / 276.9 \times 264.4$$

³ The 4Q12 based indexes are 1980 based indexes divided by the 4Q12 basing factor (297.6/100). Other basing factors are: 4Q07 = 245.9; 4Q02 = 192.1; 4Q97 = 173.2; 4Q92 = 156.9; and 4Q87 = 132.2.

Productivity

On February 13, 2015, the Surface Transportation Board (STB) served a decision in Ex Parte 290 (Sub-No. 4) which added the year 2013 to the Productivity Adjustment Factor (PAF) and removed the year 2008. This creates a geometric average annual productivity change, for the five-year period 2009 through 2013, of 0.7 percent per year. The components of this average annual value are shown on the following table in ratio format – therefore, 1.007 is the same as an increase of 0.7 percent.

Productivity changes are calculated by multiplying each of the five productivity changes together and taking the result to the one-fifth power. The productivity adjustment factors (PAF) for each quarter are calculated by increasing the previous quarter's PAF by quarterly versions of the annual rate, which are the fourth root of the geometric average annual growth rate. The difference between the PAF and the PAF-5 is the timing of the five-year productivity trend.

Comparison of Output, Input, & Productivity			
2009 - 2013			
Year	Output Index (1)	Input Index (2)	Productivity ¹ Changes (3)
2009	0.847	0.861	0.984
2010	1.109	1.070	1.037
2011	1.041	1.039	1.001
2012	1.007	0.999	1.008
2013	1.022	1.018	1.004
Average			1.007
Previous Average (2008-2012)			1.010

¹ The values shown in Column 3 are based on full float calculations and may not exactly match numbers calculated using the rounded numbers displayed in Columns 1 and 2.

Calculation of PAF and PAF-5			
For 2009-2013, use fourth root of avg. productivity change = 1.0017			
For 2008-2012, use fourth root of avg. productivity change = 1.0025			
Quarter	Year	PAF	PAF-5
Q1	2015	2.3342	2.4704
Q2	2015	2.3382	2.4766
Q3	2015	2.3422	2.4828
Q4	2015	2.3462	2.4890
Q1	2016	2.3502	2.4932

2008-2012

2009-2013

Rail Cost Adjustment Factor First Quarter 2016

Four RCAF values are presented in this filing. Two are not modified for productivity (Preliminary RCAF and RCAF Unadjusted), and two incorporate a productivity calculation (RCAF Adjusted and RCAF-5). The All-Inclusive Index and all four RCAF values, plus the percent change for each, are shown below. Note that, beginning with 2013Q1, the All-Inclusive Index is on a 2012Q4=100 basis.

	Previous 2015Q4	Current 2016Q1	Percent Change
All-Inclusive Index ¹	88.5	88.2	-0.3
Preliminary RCAF ²	0.885	0.882	-0.3
Forecast Error Adjustment ³	<u>-0.023</u>	<u>-0.018</u>	
RCAF (Unadjusted) ⁴	0.862	0.864	0.2
Productivity Adjustment Factor ⁵	<u>2.3462</u>	<u>2.3502</u>	
RCAF (Adjusted) ⁶	0.367	0.368	0.3
PAF-5 ⁷	2.4890	2.4932	
RCAF-5 ⁸	0.346	0.347	0.3

¹ See All-Inclusive Index on page 3.

² All-Inclusive Index divided by the All-Inclusive Index in the base period (100.0).

³ The current figure is from Forecast vs. Actual All-Inclusive Index in this filing (page 4). The previous quarter figure is shown in a similar section of the previous quarter's filing.

⁴ Preliminary RCAF plus the forecast error adjustment.

⁵ See Productivity on page 5.

⁶ RCAF (Unadjusted) divided by the Productivity Adjustment Factor (PAF).

⁷ See Productivity on page 5.

⁸ RCAF (Unadjusted) divided by the PAF-5.

Appendixes

Labor

First Quarter 2016

The first quarter 2016 Labor Index is forecast to increase 3.5 percent from the previous quarter. Much of the increase was caused by higher health & welfare costs for the new year.

Wage Rate Index

The Wage Rate Index portion of the Labor Index increased 0.7 percent. The increase was caused by non-union wage increases plus a small number of independent union wage increases and cost of living allowances.

Wage Increases: No wage increases are currently scheduled for the first quarter in the national labor agreements. A few independent labor agreements have general increases effective January 1, and some additional independent labor agreements have cost-of-living-allowances (COLAs) effective January 1. Following past index procedure, non-union employees were assigned a general wage increase (3.0 percent) similar to the increase received by most labor unions in 2015. This non-union wage increase is effective January 1, 2016.

Lump Sums: The first quarter lump sum rate decreased by 0.003 cents, as one amount was completely amortized and removed from the index. There were no lump sums added to the index.

Back Pay: The first quarter back pay rate was unchanged from the previous quarter. No new back pay amounts were added, and no amounts were completely amortized and removed.

Other: In wages, "Other" contains the amortization of incentive payments that a railroad makes each year to its dispatchers, yardmasters, and engineers. The current incentive payment amount is for a payment made in early 2015 for performance in 2014. This amount is unchanged.

Supplements Index

The Supplements Index increased 8.0 percent. All four categories increased, but higher health & welfare premiums had the most impact.

Health & Welfare: The Health & Welfare rate increased 16.4 percent. Higher employer contributions (premiums) will go into effect January 1. (See pages 4 and 5 of this appendix.) Employee health & welfare cost sharing was unchanged. Although the hourly rate for health and welfare increased substantially, it is still below what it was for 2011 and most of 2012.

Railroad Retirement: The Railroad Retirement rate increased 0.5 percent. This change was caused by the small increase in taxable earnings. Maximum taxable earnings for Railroad Retirement's Tier I and Tier II did not change for 2016, and the tax rates (for employers) did not change either. Page 4 of this appendix lists tax rates and maximum taxable earnings for 2014 through 2016.

Labor

First Quarter 2016

Unemployment Insurance: The Unemployment Insurance rate increased 18.2 percent (3.7 cents) from the previous quarter. Although the maximum taxable earnings did not change for 2016, the tax rate increased. Basic tax rates range from a minimum of 0.65 percent to a maximum of 12 percent. However, if the Railroad Unemployment Insurance Account balance falls below a certain threshold, a surcharge can be imposed. For 2016 (like 2015), a surcharge of 1.5 percent will be used – meaning that no railroad will have a tax rate less than 2.15 percent. The tax rate is experience-rated, and employee counts are down (and unemployment is up). The weighted average Class I railroad rate for 2016 will be 2.73 percent compared to only 2.31 percent for 2015. Page 4 of this appendix lists tax rates and maximum taxable earnings for 2014 through 2016. There was no surcharge in 2014.

Other: The "Other" category is a reflection of all other fringe benefits, and currently contains known employer contributions to employee 401(k) accounts and employer contributions to employee stock plans that are recorded as fringe benefits. For the first quarter, the rate increased 4.0 cents because of employer stock awards.

Labor Index Calculation

As shown in Table A-1 on the next page, the 0.7 percent increase in the Wage Rate Index and the 8.0 percent increase in the Supplements Index combined to cause a 3.5 percent increase in the Labor Index. The linked first quarter 2016 index is 417.7.

Labor First Quarter 2016

Table A-1 Labor Index

	2015Q4	2016Q1	Change	
			Percent	Amount
<u>Base Wage</u> – Straight Time & Pay For Time Not Worked	\$41.101	\$41.402	0.7%	\$0.301
Adjustments:				
Lump Sum	0.395	0.392	-0.8%	-\$0.003
Back Pay	0.131	0.131	0.0%	\$0.000
Other	0.157	0.157	0.0%	\$0.000
Total Wages	<u>41.784</u>	<u>42.082</u>	0.7%	\$0.298
Health & Welfare Benefits	6.909	8.043	16.4%	\$1.134
RR Retirement & Medicare	8.454	8.496	0.5%	\$0.042
Unemployment Insurance	0.203	0.240	18.2%	\$0.037
Other	0.124	0.164	32.3%	\$0.040
Total Supplements	<u>\$15.690</u>	<u>\$16.943</u>	8.0%	\$1.253
Total Labor (as info only)	\$57.474	\$59.025		
Wage Index¹	357.6	360.1	0.7%	
Supplements Index²	579.8	626.1	8.0%	
Total labor Index, 2014 Weights ³	419.6	434.3		
Labor Index (linked)⁴	403.6	417.7	3.5%	

¹ 1980 wage rate \$11.685

² 1980 supplements rate \$2.706

³ 2014 weights: wages, supplements 72.1% 27.9%

⁴ 2016Q1 linked Index = 2015Q4 linked x (2016Q1 / 2015Q4)
= 403.6 x 434.3 / 419.6

Labor
First Quarter 2016

Supplement Comparisons

Health and Welfare Rates

Plan	Railroad Contribution Per Employee Per Month				
	2014	2015	2016	Change	
				'14-'15	'15-'16
Group Health & Welfare	\$1,285.74	\$1,298.28	\$1,481.05	1.0%	14.1%
Early Retirement Major Medical	127.92	109.90	134.70	-14.1%	22.6%
Group Dental	53.00	50.83	56.97	-4.1%	12.1%
Group Vision	8.39	8.41	8.41	0.2%	0.0%
Supplemental Sickness					
Maintenance of Way	32.87	32.87	32.87	0.0%	0.0%
Shop Crafts	48.28	53.18	49.11	10.1%	-7.7%
Signalmen	30.74	30.74	29.48	0.0%	-4.1%
Yardmasters	34.96	34.78	34.22	-0.5%	-1.6%

Railroad Retirement and Medicare

	Earnings Base			Employer Rate		
	2014	2015	2016	2014	2015	2016
Tier I	\$117,000	\$118,500	\$118,500	6.20%	6.20%	6.20%
Tier II	87,000	88,200	88,200	12.60%	13.10%	13.10%
Medicare	no limit	no limit	no limit	1.45%	1.45%	1.45%

Unemployment Insurance

Monthly Taxable Earnings Base			Weighted Avg. Class I Rate		
2014	2015	2016	2014	2015	2016
\$1,440	\$1,455	\$1,455	0.68%	2.31%	2.73%

Labor
First Quarter 2016

NATIONAL RAILWAY LABOR CONFERENCE
EMPLOYEE BENEFITS DEPARTMENT

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November 24, 2015

Mr. Clyde Crimmel
 Director Statistical Information
 Policy & Communications Department
 AAR-5th Floor
 50 F Street N.W.
 Washington, D.C. 20009

Dear Mr. Crimmel:

The revised employer Payment Rates which are effective January 1, 2016 are as follows:

Railroad Employees National Health & Welfare Plan & National Railway Carriers/United Transportation Union H&W Plan Non-Hospital Road	\$1,481.05
Railroad Employees National Early Retirement Major Medical Benefit Plan Non-Hospital Road	\$ 134.70
Aetna - National Dental Plan	\$ 56.97
Aetna - Supplemental Sickness Plans	
ShopCrafts	\$ 49.11
Signalmen	\$ 29.48
Maintenance of Way	\$ 32.87
Trustmark - Supplemental Sickness Plans Yardmasters	\$ 34.22
EyeMed - National Vision Plan	\$ 8.41

If you have any questions or need clarification, please contact me.

Very truly yours,



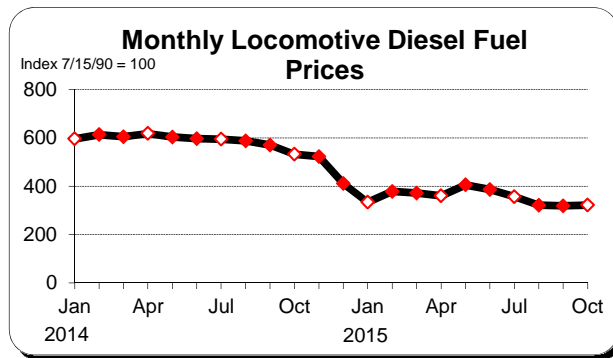
Susan E. Parks

cc: Glen Williams

Fuel First Quarter 2016

The forecast for fuel is based on: (1) a survey of railroad fuel purchasing officers concerning current price and volume levels, (2) expectations of railroad purchasing officers based on their own forecast models and discussions with their major suppliers, and (3) a consensus of petroleum industry experts and general business publications. Fuel purchases are assumed to remain in inventory for 30 days before the fuel is consumed (and therefore expensed). Therefore, prices paid in the first month of each quarter are for fuel expensed in the second (or middle) month of the quarter, and the middle month is used to represent each quarter.

Locomotive diesel fuel prices fell in June, July, and August – but have leveled off in the most recent months. They were slightly higher in October than they were in September. The chart below shows the AAR's Monthly Locomotive Diesel Fuel Price Index from January 2014 through October 2015.



While the latest average prices for locomotive diesel fuel are available only through October 2015, data through most of November are available for related fuel types. Weekly spot prices for crude oil,* heating oil,** and Ultra-Low-Sulfur Diesel Fuel** have all decreased from 10/16/2015 to 11/20/2015, according to the Energy Information Administration. Thus, the railroads expect Q1 (January 2016) locomotive diesel fuel prices to continue to fall – down 9.3 percent from the fourth quarter forecast, and down 3.7 percent from the average price actually paid in October.

Forecast Fuel Index (1980 = 100)	191.2
Change from previous quarter forecast	-9.3%
Change from previous quarter actual	-3.7%

* Diesel fuel used by locomotives is made from refined crude oil, and therefore usually has some price correlation.

** Heating oil, Ultra-Low-Sulfur No. 2 Diesel Fuel, and locomotive diesel fuel are part of a group of closely related products, commonly labeled as distillates, that differ mostly by their sulfur content. Because of these similarities, these fuels are produced together and have similar pricing trends.

Materials & Supplies

First Quarter 2016

The first quarter 2016 Materials & Supplies Index decreased 6.8 percent from the previous quarter. All three of the major categories decreased, although the change for Forest Products was very small. A 6.5 percent decrease for Metal Products had the biggest impact, as average prices decreased, or were unchanged, for all but one of the 22 items that comprise the category. Miscellaneous Products, which does not have as large of a weight as Metal Products, decreased 9.2 percent. The Materials & Supplies Index is now at its lowest level since 2010Q3. As a "sanity check", it has been noted that the monthly Producer Price Index for Metals and Metal Products (produced by the Bureau of Labor Statistics) is currently at its lowest level over the period of January 2010 through October 2015.

2016Q1 Materials & Supplies Index = 246.9

2015Q4 Materials & Supplies Index = 264.8

Difference -17.9 basis points
or
-6.8 %

Equipment Rents First Quarter 2016

The Equipment Rents Index consists of two components – car hire and lease rentals. The methodology used to create these two components and the final Equipment Rents Index are explained below.

Car Hire

The car hire component is indexed using data from the Car Hire Accounting Rate Master (CHARM) file. Car hire rates for the forecast quarter are estimated based on data for active freight cars using the most recent month available. For the first quarter, December 1 of the previous year is used. For the second, third and fourth quarters; March 1, June 1, and September 1 are used, respectively. Using data retrieved from the latest CHARM file, an average rate per car is developed. Next, those average rates are grouped into car type categories to create an overall summary of car hire rates. The summary rates are then compared from quarter to quarter to determine the Car Hire Index.

Lease Rentals

The lease rentals portion of the Equipment Rents Index uses the Producer Price Index for Industrial Commodities less Fuel and Related Products and Power (PPI-LF). The Commission adopted this surrogate in its decision served March 13, 1987. The AAR uses six years of historical data to derive its forecast for the PPI-LF. The forecast is used not only for lease rentals, but also for the "Other" component of the All-Inclusive Index. Appendix G discusses the forecast in more detail.

Equipment Rents Index Calculation

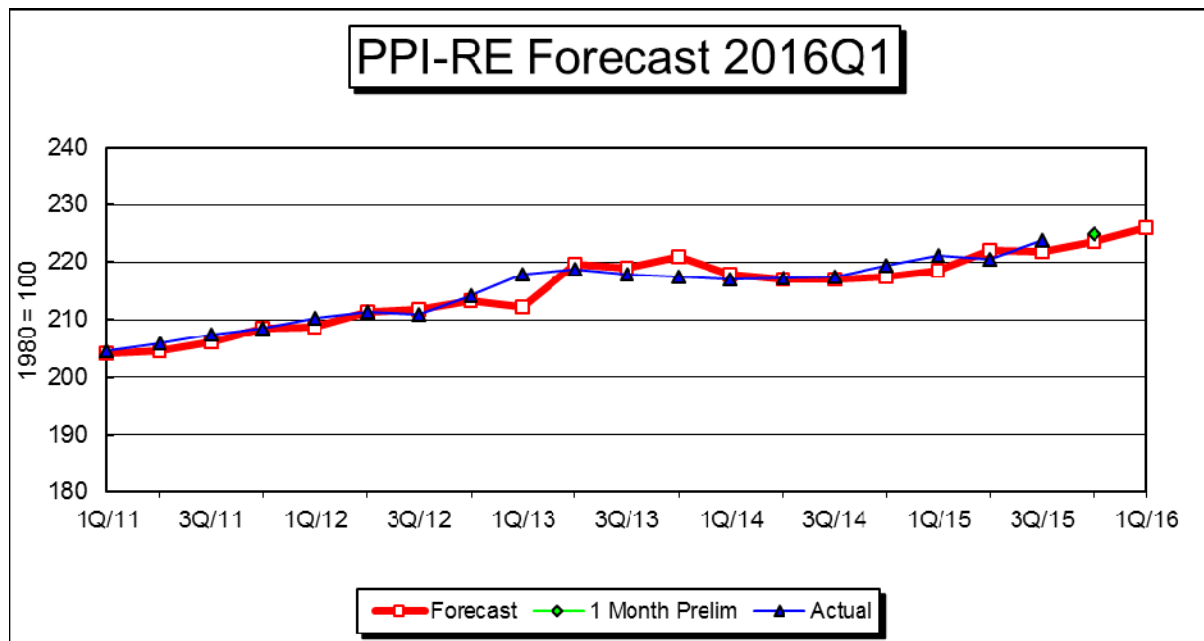
The table below calculates the Equipment Rents Index. The first quarter Car Hire portion of the Index increased 0.7 percent because of increases in rates for autoracks and privately-owned cars that occurred over the last three months. A 1.2 percent decrease in the projected PPI-LF (See Appendix G) used as a proxy for Lease Rentals, combined with the 0.7 percent increase for Car Hire, caused the Equipment Rents Index to decrease 0.2 percent.

	2014	2015Q4	2016Q1	Percent
	Weight			Change
Car Hire	56.5%	193.8	195.1	0.7 %
Lease Rentals	43.5%	218.2	215.5	-1.2
Weighted Average		204.4	204.0	-0.2
Weighted Average (Linked)		214.7	214.3	-0.2

Depreciation First Quarter 2016

The Producer Price Index for Railroad Equipment (PPI-RE) is used to index depreciation expense. The PPI-RE is forecast using an ARIMA (Auto-Regressive Integrated Moving Average) process where a statistical package picks the model that best fits the historical data set (see next page), and that model is then used for the forecast. The historical data set contains 6 years of monthly data (a sample size of 72), where the most recent available data point is the first month of the quarter prior to the forecast quarter. For a first quarter forecast, the most recent month of data available would be for October of the prior year. For a second quarter forecast, January would normally be the most recent period available. April and July would be the most recent months available for third and fourth quarter forecasts, respectively. The output from the forecast model is shown on page 2 of this appendix on a 1982=100 basis. The figure forecast by the model, a 1.1 percent increase from the previous quarter's forecast, reflects monthly PPI-RE figures that have increased in seven of the last ten months.

Forecast of Depreciation Index (1982=100)	204.3
Forecast of Depreciation Index (1980=100)	226.0
Change from previous quarter forecast	1.1%
Change from actual first month of previous quarter	0.5%
Change from same quarter of prior year (actual)	2.2%



Depreciation First Quarter 2016

PPI RAILROAD EQUIPMENT

Exponential smoothing outperforms Box-Jenkins by 0.875 to 1.567 out-of-sample Mean Absolute Deviation. I tried 78 forecasts up to a maximum horizon 12. For Box-Jenkins, I used a log transform.

Series is trended and seasonal.

Recommended model: Exponential Smoothing

Forecast Model for PPIRE

Holt exponential smoothing: Linear trend, No seasonality

Component	Smoothing Weight	Final Value
Level	0.64762	203.19
Trend	0.02006	0.26753

Within-Sample Statistics

Sample size 72	Number of parameters 2
Mean 192.5	Standard deviation 6.052
R-square 0.9783	Adjusted R-square 0.978
Durbin-Watson 1.98	Ljung-Box(18)=19.04 P=0.6106
Forecast error 0.8978	BIC 0.9395
MAPE 0.003071	RMSE 0.8853
MAD 0.5957	

Actual Values for the Most Recent 6 Periods:

Date	Actual
2015-05	200.0
2015-06	201.4
2015-07	201.6
2015-08	202.6
2015-09	202.8
2015-10	203.3

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2015-11	201.613	203.454	205.296
2015-12	201.515	203.722	205.929
2016-01	201.470	203.989	206.509
2016-02	201.459	204.257	207.055
2016-03	201.473	204.524	207.576
QTR AVG	201.467	204.257	207.0467

Interest First Quarter 2016

The Interstate Commerce Commission, in its decision served February 28, 1989, revised the All-Inclusive Index methodology to include a specific interest component, which is to track changes in the average interest rate from year to year. The interest rate is essentially the embedded cost of debt, i.e., total interest expense divided by average total long term debt.

The interest rate is calculated for the most recent year and used until the next year's figures are finalized. The source data are from a summary of the annual reports (Form R-1) submitted by each of the Class I railroads. Although the data set is received at the end of March, it is not used until the September filing. This enables data to be entered into a database and reviewed – and any revisions made, if necessary, before the data are used in the Index. The current Interest Index is based on 2014 data, and was updated in this Q4 filing submitted on September 4, 2015.

The R-1 source for interest expense is Schedule 210, column b. The lines currently used are listed below. The source for average total debt is Schedule 200. The sums of data from columns b and c (ending and beginning balances) are combined and divided by 2 to compute an average balance. The line numbers are listed below.

Interest Expense (Schedule 210)

Line	
42	Total Fixed Charges
44	Contingent Interest
less	
22	Release of Premium on Funded Debt

Average Total Debt (Schedule 200)

Line	
30	Current Loans and Notes Payable
39	Equipment Obligations and Other Long Term Debt Due Within One Year
41	Funded Debt Unmatured - Non-Current
42	Equipment Obligations - Non-Current
43	Capitalized Lease Obligations - Non-Current
44	Debt in Default - Non-Current
45	Accounts Payable: Affiliated Companies - Non-Current
46	Unamortized Debt Premium - Non-Current

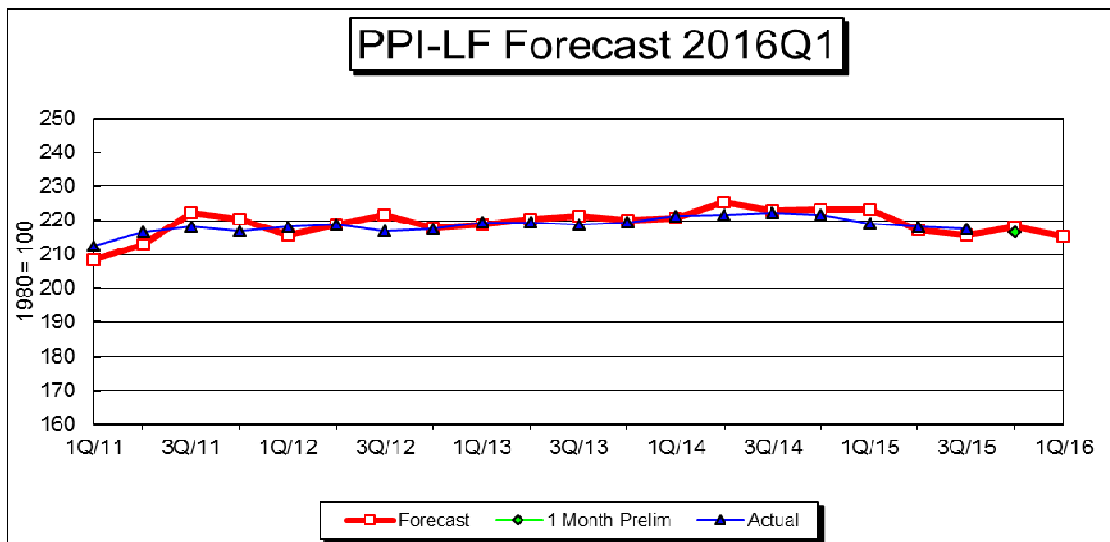
2014	Interest Rate	4.51%
1980	Interest Rate	7.85%
2016Q1	Interest Index	57.5
2015Q4	Interest Index	57.5
	Percent Change	0.0%

Other Expenses First Quarter 2016

The Producer Price Index for Industrial Commodities less Fuels and Related Products and Power (PPI-LF) is used to index purchased services, casualties and insurance, loss and damage, taxes (other than income and payroll), general and administrative expenses, and lease rentals. These expenses, when grouped together, are usually called "Other" expenses.

Like the PPI-RE, the PPI-LF is forecast using an ARIMA process on 6 years of monthly data (a sample size of 72) with the most recent available monthly data being the first month of the quarter prior to the forecast quarter. For a first quarter forecast, the most recent month of data available would be for October of the prior year. For a second quarter forecast, January would normally be the most recent month available. April and July would be the most recent months available for third and fourth quarter forecasts respectively. The output from the forecast model is shown on page 2 of this appendix for 1982=100. Monthly PPI-LF figures have fallen in 12 out of the last 14 months. The forecast for 2016Q1 is 1.2 percent below the previous quarter.

Forecast of Other Expense Index (1982=100)	192.2
Forecast of Other Expense Index (1980=100)	215.5
Change from previous quarter forecast	-1.2%
Change from actual first month of previous quarter	-0.5%
Change from same quarter of prior year (actual)	-1.7%



Other Expenses First Quarter 2016

**PPI INDUSTRIAL COMMODITIES LESS FUELS
AND RELATED PRODUCTS AND POWER**

Exponential smoothing outperforms Box-Jenkins by 1.406 to 1.663 out-of-sample Mean Absolute Deviation. I tried 78 forecasts up to a maximum horizon 12.

Series is trended and seasonal.

Recommended model: Exponential Smoothing

Forecast Model for PPILF

Holt exponential smoothing: Linear trend, No seasonality

Component	Smoothing Weight	Final Value
Level	1.00000	193.10
Trend	0.82557	-0.022918

Sample size 72	Number of parameters 2
Mean 192.6	Standard deviation 5.317
R-square 0.9866	Adjusted R-square 0.9864
Durbin-Watson 1.912	Ljung-Box(18)=38.77 P=0.9969
Forecast error 0.62	BIC 0.6487
MAPE 0.002507	RMSE 0.6113
MAD 0.4808	

Actual Values for the Most Recent 6 Periods:

Date	Actual
2015-05	194.9
2015-06	195.2
2015-07	194.7
2015-08	194.1
2015-09	193.2
2015-10	193.1

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2015-11	191.599	192.871	194.142
2015-12	189.995	192.642	195.288
2016-01	188.892	192.412	195.933
2016-02	187.967	192.183	196.400
2016-03	187.141	191.954	196.767
QTR AVG	188.000	192.183	196.367

Railroad and Union Abbreviations

First Quarter 2016

Railroads

BLE	Bessemer & Lake Erie Railroad (Part of CN's Grand Trunk Corp.)
BNSF	BNSF Railway Company
CC	Chicago, Central & Pacific (Part of CN's Grand Trunk Corp. Sometimes noted as CC&P.)
CN	Canadian National Railway (Commonly known as CN, owns Grand Trunk Corporation.)
CNGT	AAR's abbreviation for Grand Trunk Corporation (Almost all of CN's U.S. operations.)
CP	Canadian Pacific (Also noted as CPR. Owns the U.S. Class I railroad Soo Line.)
CPSL	AAR's abbreviation for Soo Line Corporation (CP's U.S. operations including SOO, D&H, and DME.)
CSX	CSX Transportation
D&H	Delaware & Hudson (Part of Canadian Pacific's U.S. operations, included beginning 2011Q4.)
DME	Dakota, Minnesota & Eastern (Part of Canadian Pacific's U.S. operations, included beginning 2011Q4.)
GTW	Grand Trunk Western Railroad (Part of CN's Grand Trunk Corp.)
IC	Illinois Central Railroad (Part of CN's Grand Trunk Corp.)
KCS	Kansas City Southern Railway
NS	Norfolk Southern Combined Railroad Subsidiaries (a.k.a. Norfolk Southern Railway or NS Rail)
SOO	Soo Line Railroad (The largest part of Canadian Pacific's U.S. operations.)
UP	Union Pacific Railroad
WC	Wisconsin Central and subsidiaries (Part of CN's Grand Trunk Corp.)

Note: A portion of the DM&E was sold during 2014.

Note: A proposal was made in November 2014 to sell a portion of the D&H pending regulatory approval.

Major Unions Involved with Railroads

ATDA	American Train Dispatchers Association
BLET	Brotherhood of Locomotive Engineers and Trainmen Div. of the International Brotherhood of Teamsters
BMWED	Brotherhood of Maintenance of Way Employees Division of the International Brotherhood of Teamsters
BRS	Brotherhood of Railroad Signalmen
IAM	International Association of Machinists and Aerospace Workers
IBBM	International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers & Helpers
IBEW	International Brotherhood of Electrical Workers
NCFO	National Conference of Firemen and Oilers
SMART-TD	Sheet Metal Air Rail Transportation - Transportation Division*
SMW	Sheet Metal Workers' International Association
TCU	Transportation Communication International Union
TCU-Carmen	Brotherhood of Railway Carmen Division of the Transportation Communications International Union
UTU-Yard	United Transportation Union Yardmaster Department (also noted as UTU-YMD)

Predecessor Unions (Some AAR databases use these old abbreviations.)

BLE	Brotherhood of Locomotive Engineers (predecessor to BLET)
BMWE	Brotherhood of Maintenance of Way Employees (predecessor to BMWED)
BRC	Brotherhood of Railway Carmen (predecessor to TCU-Carmen)
IBFO	International Brotherhood of Firemen and Oilers (predecessor to NCFO)
UTU	United Transportation Union (merged into SMART)

* Typically represents employees formerly represented by the UTU (conductors and brakemen).