

ASSOCIATION  
OF AMERICAN  
RAILROADS

**John T. Gray**  
Senior Vice President - Policy & Economics

March 5, 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 second quarter 2015 All-Inclusive Index and Rail Cost Adjustment Factor, filed in Ex Parte No. 290 (Sub-No. 5) (2015-2) *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 second quarter 2015 results on the fourth quarter 2012 base, and shows the percentage changes from the previous quarter.

	<u>2015Q1</u>	<u>2015Q2</u>	<u>% Change</u>
All-Inclusive Index	95.5	91.1	-4.6
Preliminary RCAF	0.955	0.911	-4.6
Forecast Error Adjustment	-0.009	-0.031	
RCAF (Unadjusted)	0.946	0.880	-7.0
Productivity Adjustment Factor	2.3342	2.3382	
RCAF (Adjusted)	0.405	0.376	-7.2
PAF-5	2.4704	2.4766	
RCAF-5	0.383	0.355	-7.3

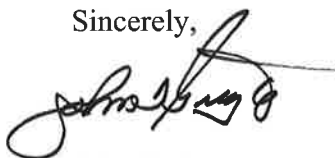
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In its October 3, 1996 decision in Ex Parte No. 290 (Sub-No. 7), *Productivity Adjustment - Implementation*, the STB noted its intent to publish, in addition to the RCAF (Unadjusted) and RCAF (Adjusted), an RCAF-5 (i.e., a calculation of the productivity 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 a member of 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,

A handwritten signature in black ink, appearing to read "John T. Gray", with a long horizontal flourish extending to the right.

John T. Gray

Attachments

**Second Quarter 2015  
All-Inclusive Index**

**Ex Parte No. 290 (Sub-No. 5) (2015-2)**

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

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

**March 5, 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 second quarter 2015. The Board's latest productivity adjustment decision, served February 13, 2015, has been utilized to update productivity adjustment factors listed on page 5 herein.

## 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 2013 (current) and 2012 (previous) weights are shown below. Weights calculated from 2012 data were used for the fourth quarter of 2013 through the third quarter of 2014. (Revisions to annual reports caused revisions to the 2012 weights.) Beginning with the fourth quarter of 2014, weights calculated using 2013 data are used. Labor had the biggest increase in weight, as it increased from 31.2 to 31.6 percent of expenses. Weights for Fuel and Equipment Rents decreased by 0.2 percentage points, although the weight for Fuel remains high compared to other years. Weights for Depreciation increased by 0.1 percentage point, Interest decreased by 0.1 percentage point, and the remaining components experienced no change at all. During October 2014, the STB ordered one railroad to make a small revision to Schedule 410 of its 2013 annual report. However, the change had no impact on the weights calculated earlier in August.

<b>Weights for RCAF's All-Inclusive Index</b>		
	2012	2013
Labor	31.2 %	31.6 %
Fuel	22.3	22.1
Materials & Supplies	4.9	4.9
Equipment Rents	5.6	5.4
Depreciation	11.9	12.0
Interest	2.0	1.9
Other	<u>22.1</u>	<u>22.1</u>
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 Second Quarter 2015

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.

	2013 Weights	Forecast		Percent Change
		Previous 2015Q1	Current 2015Q2	
1. Labor	31.6%	401.6	402.8	0.3 %
2. Fuel	22.1%	309.1	251.6	-18.6
3. M&S	4.9%	274.9	265.3	-3.5
4. Equipment Rents	5.4%	213.1	212.1	-0.5
5. Depreciation	12.0%	218.6	222.1	1.6
6. Interest	1.9%	70.6	70.6	0.0
7. Other	22.1%	223.1	217.2	-2.6
8. Weighted Average				
a. 1980 = 100		297.1	283.3	
b. 1980 = 100 (linked)		284.2	271.0 <sup>1</sup>	
c. 4Q12 = 100		95.5	91.1 <sup>2</sup>	-4.6

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<sup>1</sup> Index80 = (Current Index / Previous Index) \* the Previous Quarter Linked Index  
= (283.3 / 297.1) x 284.2  
= 271.0

<sup>2</sup> To calculate the 4Q12 = 100 index:

$$\text{Index}_{4Q12} = (\text{Current Linked Index} / \text{4Q12 Basing Factor}) * 100$$

$$= 271.0 \text{ divided by } 297.6 \text{ times } 100$$

$$= 91.1$$

Indexes based on other periods:

4Q07 based index = 271.0 / 245.9 x 100 = 110.2  
4Q02 based index = 271.0 / 192.1 x 100 = 141.1  
4Q97 based index = 271.0 / 173.2 x 100 = 156.5  
4Q92 based index = 271.0 / 156.9 x 100 = 172.7  
4Q87 based index = 271.0 / 132.2 x 100 = 205.0

## Forecast vs. Actual All-Inclusive Index Fourth Quarter 2014

Because of data availability, the forecast error adjustment has a two-quarter lag from each filing. As shown below, the fourth quarter actual index of 95.4 is 3.1 index points below the forecast value of 98.5. Therefore, the forecast error adjustment for second quarter 2015 is -3.1 index points.

	2013 Weights	Fourth Quarter 2014		Amt Difference
		Forecast	Actual	
1. Labor	31.6%	389.7	389.7	
2. Fuel	22.1%	368.8	328.0	
3. M&S	4.9%	276.6	276.6	
4. Equipment Rents <sup>1</sup>	5.4%	213.0	213.1	
5. Depreciation	12.0%	217.4	219.5	
6. Interest	1.9%	70.6	70.6	
7. Other	22.1%	223.2	221.7	
8. Weighted Average				
a. 1980 = 100		306.5	297.4	
b. 1980 = 100 (linked)		293.2	283.9 <sup>2</sup>	
c. 4Q12 = 100 <sup>3</sup>		98.5	95.4	-3.1

**Forecast error**       $\longrightarrow$  **-3.1 index points**

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1	2013 Weights	Fourth Quarter 2014	
		Forecast	Actual
Car-Hire	52.8%	186.2	187.4
Lease Rentals	47.2%	223.2	221.7
Weighted Average		203.7	203.6
Weighted Average (linked)		213.0	213.1

<sup>2</sup> Linked actual index = (actual index / previous actual index) x previous linked actual index.  
 $283.9 = 297.4 / 307.4 \times 293.4$

<sup>3</sup> 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.

<b>Comparison of Output, Input, &amp; Productivity</b>			
<b>2009 - 2013</b>			
Year	Output Index (1)	Input Index (2)	Productivity <sup>1</sup> 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
<b>Average</b>			<b>1.007</b>
Previous Average (2008-2012)			1.010

<sup>1</sup> 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.

<b>Calculation of PAF and PAF-5</b>			
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

## Rail Cost Adjustment Factor Second Quarter 2015

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 2015Q1	Current 2015Q2	Percent Change
All-Inclusive Index <sup>1</sup>	95.5	91.1	-4.6
Preliminary RCAF <sup>2</sup>	0.955	0.911	-4.6
Forecast Error Adjustment <sup>3</sup>	<u>-0.009</u>	<u>-0.031</u>	
RCAF (Unadjusted) <sup>4</sup>	0.946	0.880	-7.0
Productivity Adjustment Factor <sup>5</sup>	<u>2.3342</u>	<u>2.3382</u>	
RCAF (Adjusted) <sup>6</sup>	0.405	0.376	-7.2
PAF-5 <sup>7</sup>	2.4704	2.4766	
RCAF-5 <sup>8</sup>	0.383	0.355	-7.3

<sup>1</sup> See All-Inclusive Index on page 3.

<sup>2</sup> All-Inclusive Index divided by the All-Inclusive Index in the base period (100.0).

<sup>3</sup> 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.

<sup>4</sup> Preliminary RCAF plus the forecast error adjustment.

<sup>5</sup> See Productivity on page 5.

<sup>6</sup> RCAF (Unadjusted) divided by the Productivity Adjustment Factor (PAF).

<sup>7</sup> See Productivity on page 5.

<sup>8</sup> RCAF (Unadjusted) divided by the PAF-5.

# Appendixes

## Labor

### Second Quarter 2015

The second quarter 2015 Labor Index is forecast to increase 0.3 percent from the previous quarter. Lump sum payments and back pay caused much of the small increase.

#### Wage Rate Index

The Wage Rate Index portion of the Labor Index increased 0.5 percent. The major changes were higher profit sharing payments in 2015 (for performance in 2014) and back pay amount related to new labor agreements.

**Wage Increases:** No wage increases are scheduled for the second quarter. Four new independent labor agreements, plus another agreement where the members exercised an option to revert to the national agreement, were added to the index.

**Lump Sums:** The second quarter lump sum rate increased 9.1 cents from the previous quarter. Three major annual lump sums from early 2014 were fully amortized and removed from the index, but the 2015 versions of these bonuses were higher because of more employees affected, higher earnings in the equation, or higher payouts. Two lump sum amounts were signing bonuses related to new independent labor agreements.

**Back Pay:** The second quarter back pay rate increased 5.6 cents as the net result of the complete amortization and removal of two amounts from last year plus the addition of four new amounts. The new back pay amounts were related to newly-received labor agreements or (in one small case) newly-received employee cost sharing amounts.

**Other:** In wages, "Other" contains the amortization of incentive payments that a railroad makes each year to its dispatchers, yardmasters, and engineers. The current amount is for a payment made in early 2014, and it is unchanged. The second quarter 2015 is the last quarter for amortization of the early 2014 payment. The payment made in early 2015 will begin to be amortized with the 2015Q3 submission.

#### Supplements Index

The Supplements Index was unchanged, as changes in two of the four supplements categories offset each other.

**Health & Welfare:** The Health & Welfare rate rounded to the same number for the current quarter. Small changes to employee health & welfare cost sharing were made for one railroad.

**Railroad Retirement:** The Railroad Retirement rate increased 0.4 percent, or 3.2 cents. The increase was caused by higher taxable earnings.

**Unemployment Insurance:** The Unemployment Insurance rate was unchanged from the previous quarter.

## **Labor**

### **Second Quarter 2015**

*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 decreased 3.2 cents as employers had fewer matching contributions.

### **Labor Index Calculation**

As shown in Table A-1 on the next page, the 0.5 percent increase in the Wage Rate Index and no change in the Supplements Index combined to cause a 0.3 percent increase in the Labor Index. The linked second quarter 2015 index is 402.8.

## Labor Second Quarter 2015

**Table A-1 Labor Index**

	2015Q1	2015Q2	Change	
			Percent	Amount
<u>Base Wage</u> – Straight Time & Pay For Time Not Worked	\$40.039	\$40.102	0.2%	\$0.063
Adjustments:				
Lump Sum	0.316	0.407	28.8%	\$0.091
Back Pay	0.094	0.150	59.6%	\$0.056
Other	0.136	0.136	0.0%	\$0.000
<b>Total Wages</b>	<u>40.585</u>	<u>40.795</u>	0.5%	\$0.210
Health & Welfare Benefits	7.612	7.612	0.0%	\$0.000
RR Retirement & Medicare	8.212	8.244	0.4%	\$0.032
Unemployment Insurance	0.204	0.204	0.0%	\$0.000
Other	0.177	0.145	-18.1%	-\$0.032
<b>Total Supplements</b>	<u>\$16.205</u>	<u>\$16.205</u>	0.0%	\$0.000
Total Labor (as info only)	\$56.790	\$57.000		
<b>Wage Index<sup>1</sup></b>	347.3	349.1	0.5%	
<b>Supplements Index<sup>2</sup></b>	598.9	598.9	0.0%	
Total labor Index, 2012 Weights <sup>3</sup>	422.5	423.8		
<b>Labor Index (linked)<sup>4</sup></b>	<b>401.6</b>	<b>402.8</b>	0.3%	

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<sup>1</sup> 1980 wage rate \$11.685

<sup>2</sup> 1980 supplements rate \$2.706

<sup>3</sup> 2013 weights: wages, supplements 70.1% 29.9%

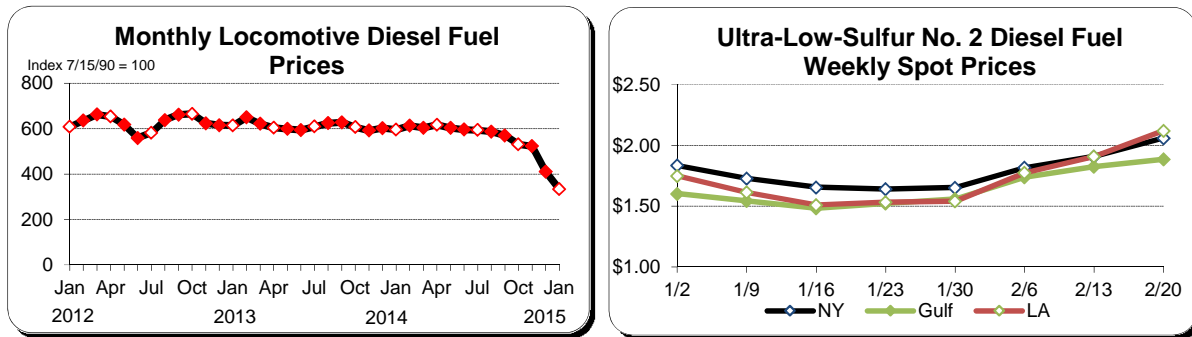
<sup>4</sup> 2015Q2 linked Index = 2015Q1 linked x (2015Q2 / 2015Q1)  
= 401.6 x 423.8 / 422.5

## Fuel Second Quarter 2015

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 dropped 46 percent from April to January, with the biggest decreases coming in recent months. The chart below (on the left) shows the AAR's Monthly Locomotive Diesel Fuel Price Index from January 2012 through January 2015.

While the latest average prices for locomotive diesel fuel are available only through January 2015, data through most of February are available for related fuel types. Spot prices for crude oil,\* heating oil,\*\* and Ultra-Low-Sulfur Diesel Fuel\*\* have been increasing in February, contrary to the trend over the last six months. In addition, inventories for distillates are down. From January 16 to February 20, spot prices for New York Harbor Ultra-Low-Sulfur No. 2 Diesel have increased 24.5 percent. Similar prices for the Gulf Coast have increased 27.1 percent. Prices in California are up 40.4 percent, as a recent refinery explosion has caused additional upward movement in prices.



Thus, the railroads expect Q2 (April) locomotive diesel fuel prices to be higher than the prices they actually paid in January – they are probably already up 20 to 40 percent. However, their Q1 (January) forecast, made around December 1 before the price drop accelerated, was too conservative in its expected decrease in fuel prices. This causes the Q2 forecast to be 18.6 percent *below* the Q1 forecast, but *higher* than the price actually paid in Q1.

Forecast Fuel Index (1980 = 100)	251.6
Change from previous quarter forecast	-18.6%
Change from previous quarter actual	22.2%

\* 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

### Second Quarter 2015

The second quarter 2015 Materials & Supplies Index decreased 3.5 percent from the previous quarter. The change was caused mostly by decreases in prices for items in the Miscellaneous Products category. Among the 13 items included in this category are ballast, locomotive lube oil, creosote, two types of batteries, air brake hoses, containerized drinking water, filters, and other items.

2015Q2 Materials & Supplies Index = 265.3

2015Q1 Materials & Supplies Index = 274.9

Difference	-9.6 basis points
	or
	-3.5 %



## Equipment Rents Second Quarter 2015

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

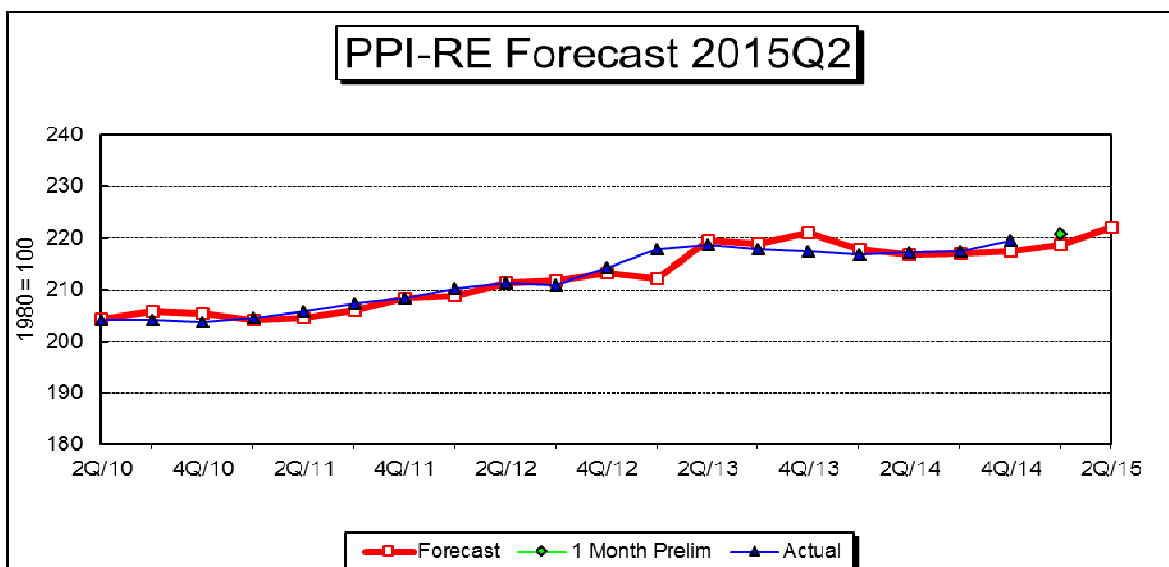
The table below calculates the Equipment Rents Index. The second quarter Car Hire portion of the Index increased 1.8 percent as the latest rates available increased in all four major categories. A 2.6 percent decrease in the projected PPI-LF (See Appendix G) used as a proxy for Lease Rentals, combined with the 1.8 percent increase for Car Hire, caused the Equipment Rent Index to decrease 0.5 percent.

	2013	2015Q1	2015Q2	Percent
	Weight			Change
Car Hire	52.8%	186.6	190.0	1.8 %
Lease Rentals	47.2%	223.1	217.2	-2.6
Weighted Average		203.8	202.8	-0.5
Weighted Average (Linked)		213.1	212.1	-0.5

## Depreciation Second Quarter 2015

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 reflects PPI-RE figures that have been up and down during recent months, but with an upward trend. Forecasts for recent quarters that were too low may have added to the amount of increase.

Forecast of Depreciation Index (1982=100)	200.8
Forecast of Depreciation Index (1980=100)	222.1
Change from previous quarter forecast	1.6%
Change from actual first month of previous quarter	0.5%
Change from same quarter of prior year (actual)	2.2%



## Depreciation Second Quarter 2015

### PPI RAILROAD EQUIPMENT

Exponential smoothing outperforms Box-Jenkins by 1.554 to 1.595 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 nonseasonal.

Recommended model: Exponential Smoothing

Forecast Model for PPIRE

Holt exponential smoothing: Linear trend, No seasonality

Component	Smoothing Weight	Final Value
Level	0.58755	199.82
Trend	0.01736	0.23918

### Within-Sample Statistics

Sample size 72	Number of parameters 2
Mean 190	Standard deviation 5.91
R-square 0.9614	Adjusted R-square 0.9609
Durbin-Watson 1.901	Ljung-Box(18)=11 P=0.1055
Forecast error 1.169	BIC 1.223
MAPE 0.003956	RMSE 1.152
MAD 0.7552	

### Actual Values for the Most Recent 6 Periods:

Date	Actual
2014-08	197.9
2014-09	198.3
2014-10	196.8
2014-11	196.9
2014-12	201.4
2015-01	199.7

### Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2015-02	197.667	200.064	202.461
2015-03	197.511	200.303	203.095
2015-04	197.404	200.542	203.681
2015-05	197.331	200.781	204.231
2015-06	197.285	201.020	204.756
<b>QTR AVG</b>	197.340	200.781	204.2227

## Interest Second Quarter 2015

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 available. Typically in the fourth quarter filing, the interest rate is updated to the new level. The source for interest expense is Schedule 210, column b, from the R-1 annual report. The lines used from current R-1 annual reports are listed below. The source for average total debt is Schedule 200 from the R-1 annual report. 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.

The current Interest Index is based on data from the 2013 Annual Report Form R-1 submitted by each Class I railroad to the Surface Transportation Board at the end of March 2014.

### 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 Obligatons - Non-Current
44	Debt in Default - Non-Current
45	Accounts Payable: Affiliated Companies - Non-Current
46	Unamortized Debt Premium - Non-Current

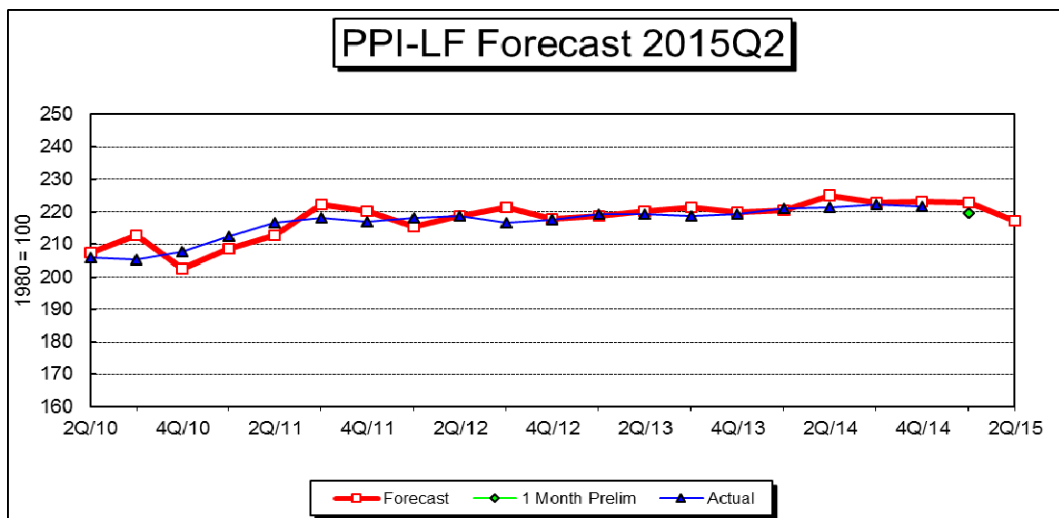
2013	Interest Rate	5.54%
1980	Interest Rate	7.85%
<b>2015Q2</b>	<b>Interest Index</b>	<b>70.6</b>
2015Q1	Interest Index	70.6
	Percent Change	0.0%

## Other Expenses Second Quarter 2015

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. The January PPI-LF is lower than it was one year ago. The forecast reflects the lower January PPI-LF figure and three consecutive monthly decreases.

Forecast of Other Expense Index (1982=100)	193.7
Forecast of Other Expense Index (1980=100)	217.2
Change from previous quarter forecast	-2.6%
Change from actual first month of previous quarter	-1.2%
Change from same quarter of prior year (actual)	-2.0%



## Other Expenses Second Quarter 2015

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

Box-Jenkins outperforms exponential smoothing by 1.057 to 2.417 out-of-sample Mean Absolute Deviation. I tried 78 forecasts up to a maximum horizon 12.

Series is nonstationary and nonseasonal.

Recommended model: Box-Jenkins  
Forecast Model for PPILF  
ARIMA(1,1,0)\*(1,0,0)

Term	Coefficient	Std. Error	t-Statistic	Significance
a[1]	0.6851	0.0898	7.6262	1.0000
A[12]	0.3232	0.1152	2.8052	0.9935

#### *Within-Sample Statistics*

Sample size 72	Number of parameters 2
Mean 190.3	Standard deviation 7.601
R-square 0.995	Adjusted R-square 0.9949
Durbin-Watson 1.909	Ljung-Box(18)=14.13 P=0.2796
Forecast error 0.5416	BIC 0.5667
MAPE 0.002175	RMSE 0.534
MAD 0.4142	

#### *Actual Values for the Most Recent 6 Periods:*

Date	Actual
2014-08	198.4
2014-09	198.3
2014-10	198.5
2014-11	197.8
2014-12	197.2
2015-01	196.1

#### *Forecasted Values*

Date	2.5 Lower	Forecast	97.5 Upper
2015-02	194.134	195.188	196.242
2015-03	192.312	194.377	196.443
2015-04	190.948	194.018	197.087
2015-05	189.621	193.650	197.680
2015-06	188.522	193.453	198.384
QTR AVG	189.697	193.707	197.717

## Railroad and Union Abbreviations

### Second Quarter 2015

#### *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 (Canadian Pacific's U.S. operations, included beginning 2011Q4.)
DME	Dakota, Minnesota & Eastern (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 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
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	United Transportation 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)