

ASSOCIATION  
OF AMERICAN  
RAILROADS

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

June 5, 2013

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 third quarter 2013 All-Inclusive Index and Rail Cost Adjustment Factor, filed in Ex Parte No. 290 (Sub-No. 5) (2013-3) *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 third quarter 2013 results on the fourth quarter 2012 base, and shows the percentage changes from the previous quarter.

	<u>2013Q2</u>	<u>2013Q3</u>	<u>% Change</u>
All-Inclusive Index	100.3	98.9	-1.4
Preliminary RCAF	1.003	0.989	-1.4
Forecast Error Adjustment	0.003	-0.012	
RCAF (Unadjusted)	1.006	0.977	-2.9
Productivity Adjustment Factor	2.2957	2.3008	
RCAF (Adjusted)	0.438	0.425	-3.0
PAF-5	2.4328	2.4377	
RCAF-5	0.414	0.401	-3.1

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.

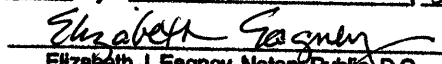
We have notified Paul Aguiar, in the STB office handling this proceeding, of our plan to e-file the submission and the non-proprietary work papers in accordance with the ICC's order in Ex Parte No. 290 (Sub-No. 2), *Railroad Cost Recovery Procedures*, served February 8, 1990. A second copy of the submission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

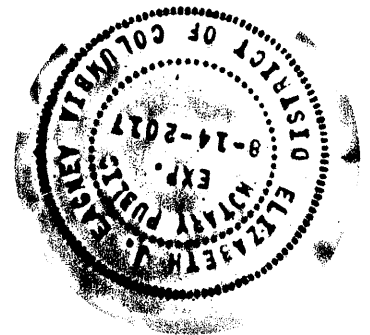
Sincerely,



John T. Gray

Attachments

District of Columbia: SS  
Subscribed and sworn to before me, in my presence,  
this 5 day of June, 2013  
  
Elizabeth J. Eagney, Notary Public, D.C.  
My commission expires August 14, 2017.



**Third Quarter 2013  
All-Inclusive Index**

**Ex Parte No. 290 (Sub-No. 5) (2013-3)**

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

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

**June 5, 2013**

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## Introduction

On January 2, 1985, the Interstate Commerce Commission (ICC) [now the Surface Transportation Board (STB)] adopted the All-Inclusive Index of Railroad Costs 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 (but does not endorse) the RCAF-5, which was instituted by an STB decision served October 3, 1996 in Ex Parte No. 290 (Sub-No. 7), *Productivity Adjustment - Implementation*. This quarter's projection of railroad costs is for the third quarter 2013.

## 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 2011 (current) and 2010 (previous) weights are shown below. The 2010 weights were used for the fourth quarter of 2011 through the third quarter of 2012. Beginning with the fourth quarter of 2012, 2011 weights are used. In 2011, expenses increased for every category with the exception of interest expenses. However, fuel expenses increased by the highest percentage and amount, caused by a huge increase in fuel costs and a much smaller increase in traffic. Not surprisingly, Fuel's weight increased from 18.0 percent to 22.5 percent. This is the second-highest weight ever for Fuel. The only other category to have its weight increase was Materials & Supplies, which increased 0.1 percentage points. Labor's weight decreased from 33.3 to 31.3 percent, despite an 8 percent increase in expenses. Weights for the remaining categories decreased by 0.4 to 1.2 percentage points.

RCAF Weights		
	Previous 2010	Current 2011
Labor	33.3 %	31.3 %
Fuel	18.0	22.5
Materials & Supplies	5.0	5.1
Equipment Rents	6.2	5.6
Depreciation	12.8	11.6
Interest	2.9	2.5
Other	21.8	21.4

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 Third Quarter 2013

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.

	2011 Weights	Forecast		Percent Change
		Previous 2013Q2	Current 2013Q3	
1. Labor	31.3%	384.9	390.4	1.4 %
2. Fuel	22.5%	404.3	375.6	-7.1
3. M&S	5.1%	261.0	264.2	1.2
4. Equipment Rents	5.6%	206.9	208.0	0.5
5. Depreciation	11.6%	219.6	218.9	-0.3
6. Interest	2.5%	92.9	92.9	0.0
7. Other	21.4%	220.2	221.4	0.5
8. Weighted Average				
a. 1980 = 100		311.3	306.9	
b. 1980 = 100 (linked)		298.5	294.3 <sup>1</sup>	
c. 4Q12 = 100		100.3	98.9 <sup>2</sup>	-1.4

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<sup>1</sup> To calculate the 1980 = 100 Linked Index:

$$\begin{aligned} \text{Index}_{80} &= (\text{Current Index} / \text{Previous Index}) * \text{the Previous Quarter Linked Index} \\ &= (306.9 / 311.3) \times 298.5 \\ &= 294.3 \end{aligned}$$

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

$$\begin{aligned} \text{Index}_{4Q12} &= (\text{Current Linked Index} / \text{4Q12 Basing Factor}) * 100 \\ &= 294.3 \text{ divided by } 297.5 \text{ times } 100 \\ &= 98.9 \end{aligned}$$

Indexes based on other periods:

- 4Q07 based index = 294.3 / 245.9 x 100 = 119.7
- 4Q02 based index = 294.3 / 192.1 x 100 = 153.2
- 4Q97 based index = 294.3 / 173.2 x 100 = 169.9
- 4Q92 based index = 294.3 / 156.9 x 100 = 187.6
- 4Q87 based index = 294.3 / 132.2 x 100 = 222.6

## Forecast vs. Actual All-Inclusive Index First Quarter 2013

Because of data availability, the forecast error adjustment has a two-quarter lag from each filing. As shown below, the first quarter actual index of 98.7 is 1.2 index points below the forecast value of 99.9. Therefore, the forecast error adjustment for third quarter 2013 is -1.2 index points.

	2011 Weights	First Quarter 2013		Amt Difference
		Forecast	Actual	
1. Labor	31.3%	389.7	389.7	
2. Fuel	22.5%	396.5	378.8	
3. M&S	5.1%	263.4	263.4	
4. Equipment Rents <sup>1</sup>	5.6%	206.7	207.6	
5. Depreciation	11.6%	212.2	217.9	
6. Interest	2.5%	92.9	92.9	
7. Other	21.4%	218.8	219.5	
8. Weighted Average				
a. 1980 = 100		310.0	306.8	
b. 1980 = 100 (linked)		297.3	293.6 <sup>2</sup>	
c. 4Q12 = 100 <sup>3</sup>		99.9	98.7	-1.2

**Forecast error**       $\longrightarrow$  **-1.2 index points**

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1	2011 Weights	First Quarter 2013	
		Forecast	Actual
Car-Hire	48.6%	178.4	179.1
Lease Rentals	51.4%	218.8	219.5
Weighted Average		199.2	199.9
Weighted Average (linked)		206.7	207.6

<sup>2</sup> Linked actual index = (actual index / previous actual index) x previous linked actual index.  
 $293.6 = 306.8 / 313.5 \times 300.0$

<sup>3</sup> The 4Q12 based indexes are 1980 based indexes divided by the 4Q12 basing factor (297.5/100).  
 Other basing factors are: 4Q07 = 245.9; 4Q02 = 192.1; 4Q97 = 173.2; 4Q92 = 156.9; and 4Q87 = 132.2.



# Productivity

On February 11, 2013, the Surface Transportation Board (STB) served a decision in Ex Parte 290 (Sub-No. 4) which added the year 2011 to the Productivity Adjustment Factor (PAF) and removed the year 2006. This creates a geometric average annual productivity change, for the five-year period 2007 through 2011, of 0.9 percent per year. The components of this average annual value are shown on the following table in ratio format – therefore, 1.009 is the same as an increase of 0.9 percent. Productivity changes are calculated by multiplying each of the five productivity changes together and taking the result to the one-fifth power. The quarter productivity adjustment factors (PAF) 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>2007 - 2011</b>			
Year	Output Index (1)	Input Index (2)	Productivity <sup>1</sup> Changes (3)
2007	1.000	0.996	1.004
2008	0.990	0.970	1.021
2009	0.847	0.861	0.984
2010	1.109	1.070	1.036
2011	1.041	1.041	1.000
<b>Average</b>			<b>1.009</b>
Previous Average (2006-2010)			1.008

<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 2007-2011, use fourth root of avg. productivity change = 1.0022			
For 2006-2010, use fourth root of avg. productivity change = 1.0020			
Quarter	Year	PAF	PAF-5
Q1	2013	2.2907	2.4279
Q2	2013	2.2957	2.4328
Q3	2013	2.3008	2.4377
Q4	2013	2.3059	2.4426
Q1	2014	2.3110	2.4480

## Rail Cost Adjustment Factor Third Quarter 2013

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 2013Q2	Current 2013Q3	Percent Change
All-Inclusive Index <sup>1</sup>	100.3	98.9	-1.4
Preliminary RCAF <sup>2</sup>	1.003	0.989	-1.4
Forecast Error Adjustment <sup>3</sup>	0.003	-0.012	
RCAF (Unadjusted) <sup>4</sup>	1.006	0.977	-2.9
Productivity Adjustment Factor <sup>5</sup>	2.2957	2.3008	
RCAF (Adjusted) <sup>6</sup>	0.438	0.425	-3.0
PAF-5 <sup>7</sup>	2.4328	2.4377	
RCAF-5 <sup>8</sup>	0.414	0.401	-3.1

<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

### Third Quarter 2013

The third quarter 2013 Labor Index is forecast to increase 1.4 percent from the previous quarter. Much of the increase was caused by a 3 percent general wage increase for most union employees.

#### Wage Rate Index

The Wage Rate Index portion of the Labor Index increased 1.0 percent from the previous quarter. Many unionized employees will receive a 3 percent general wage increase to their base wages effective July 1. In addition, one railroad's annual incentive compensation bonus was paid at a much higher rate than last year. Partially offsetting these increases were lower lump sum and back pay rates.

**Wage Increases:** All members of the national unions will receive a 3 percent general wage increase in July. Many independent labor agreements also have 3 percent general wage increases scheduled for July 1. Wages for non-union employees will not be increased in the index until January 1.

**Lump Sums:** The third quarter lump sum rate dropped 3.4 cents as more lump sum amounts became fully amortized and removed from the rate.

**Back Pay:** The third quarter back pay rate decreased substantially after the complete amortization and removal of back pay amounts related to last year's new national labor agreement with the BMW and an independent agreement with locomotive engineers. [See Appendix H for a list of railroad unions and their abbreviations.] Two additional (and smaller) amounts were also removed. The current rate is now negative because of a negative amount added in the second quarter when one railroad's conductors were rebenchmarked from national-agreement to independent.

**Other:** In wages, "Other" contains the amortization of incentive payments that a railroad makes each year to its dispatchers, yardmasters, and engineers. The payment made in early 2012 is now completely amortized, and has been replaced with the payment made in early 2013. This year's payout was at a much higher rate than the previous year, causing the large increase (9.2 cents) in the rate.

#### Supplements Index

The Supplements Index increased 1.8 percent. Higher health & welfare costs, caused by the removal of a health & welfare credit, caused much of the increase.

**Health & Welfare:** The Health & Welfare rate increased by \$0.201. The increase was caused by the complete amortization and removal of an overpayment credit caused by overpayments in the first half of 2012. The credit was caused by retroactive health & welfare contribution rates (which were lower than 2011) for 2012 that were not announced until the second quarter of the year.

**Railroad Retirement:** The Railroad Retirement rate increased 5.9 cents because of higher taxable earnings caused by July's general wage increases for most unions. Although third quarter taxable income is higher than the previous quarter, it is still lower than the third and fourth quarters 2012 – and the first quarter of 2013.

## Labor

### Third Quarter 2013

**Unemployment Insurance:** The Unemployment Insurance rate was unchanged. The maximum taxable earnings is too low for the higher taxable income to affect Unemployment Insurance contributions.

**Other:** The "Other" category is a reflection of all other fringe benefits, and currently contain known employer contributions to employee 401(k) accounts and employer contributions to employee stock plans that are recorded as fringe benefits. For the third quarter, the rate increased 3.3 cents as employer matches and awards increased in all categories.

### Labor Index Calculation

As shown in Table A-1 on the next page, the 1.0 percent increase in the Wage Rate Index and the 1.8 percent increase in the Supplements Index combined to cause a 1.4 percent increase in the Labor Index. The linked third quarter 2013 index is 390.4. This is the first increase for the Labor Index since the third quarter of 2012, and the index is still below the third and fourth quarters of 2012.

## Labor Third Quarter 2013

**Table A-1 Labor Index**

	2013Q2	2013Q3	Change	
			Percent	Amount
<u>Base Wage</u> – Straight Time & Pay For Time Not Worked	\$37.609	\$38.306	1.9%	\$0.697
Adjustments:				
Lump Sum	0.278	0.244	-12.2%	-0.034
Back Pay	0.324	-0.044	-113.6%	-0.368
Other	0.121	0.213	76.0%	0.092
<b>Total Wages</b>	<u>38.332</u>	<u>38.719</u>	1.0%	0.387
Health & Welfare Benefits	7.764	7.965	2.6%	0.201
RR Retirement & Medicare	7.893	7.952	0.7%	0.059
Unemployment Insurance	0.059	0.059	0.0%	0.000
Other	0.122	0.155	27.0%	0.033
<b>Total Supplements</b>	<u>\$15.838</u>	<u>\$16.131</u>	1.8%	0.293
Total Labor	\$54.170	\$54.850		
<b>Wage Index<sup>1</sup></b>	328.0	331.4	1.0%	
<b>Supplements Index<sup>2</sup></b>	585.3	596.1	1.8%	
Total labor Index, 2011 Weights <sup>3</sup>	409.0	414.8		
<b>Labor Index (linked)<sup>4</sup></b>	<b>384.9</b>	<b>390.4</b>	1.4%	

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

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

<sup>3</sup> 2011 weights: wages, supplements 68.5% 31.5%

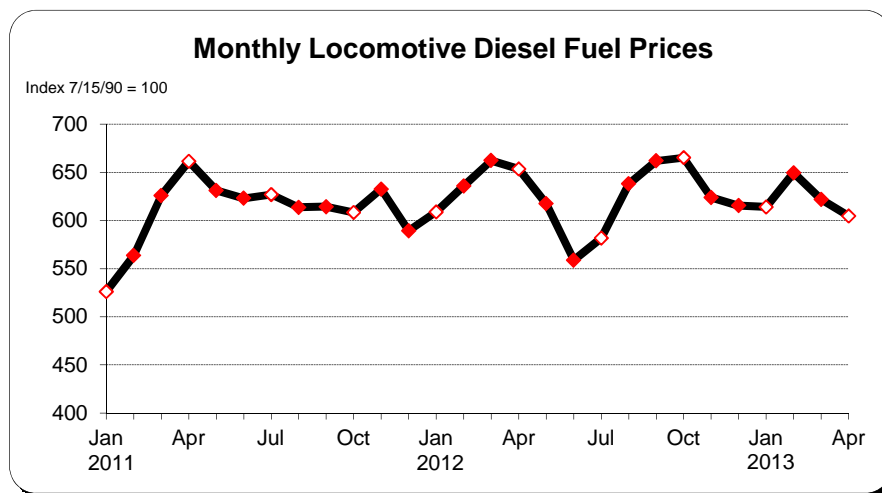
<sup>4</sup> 2013Q3 linked Index = 2013Q2 linked x (2013Q3 / 2013Q2)  
= 384.9 x 414.8 / 409.0

## Fuel Third Quarter 2013

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

While the latest average prices for locomotive diesel fuel are available only through April, the Energy Information Administration (EIA) has weekly data through most of May for related fuel types. Spot prices for number 2 heating oil decreased slightly during the two most recent weeks in May, but were still above their prices during the last half of April.\* Crude oil futures prices declined for the week ending May 24, possibly caused by increased domestic production and stocks that are above the five-year average range.\*\*

Locomotive diesel fuel prices decreased in March and April. The chart below shows the AAR's Monthly Locomotive Diesel Fuel Price Index from January 2011 through April 2013. Railroads believe prices for July 2013 (Q3) will be 7.1 percent below the second quarter forecast (represented by April 2013), but 0.7 percent above the average price actually paid for April.



Forecast Fuel Index (1980 = 100)	375.6
Change from previous quarter forecast	-7.1%
Change from previous quarter actual	0.7%

\* Heating oil 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.

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

## Materials & Supplies

### Third Quarter 2013

The third quarter 2013 Materials & Supplies Index increased 1.2 percent from the previous quarter. The change was caused by increases in prices in the Metal Products and Miscellaneous Products categories. This is the first increase for this index since one year ago, and the current value is still below its value for third quarter 2012.

2013Q3 Materials & Supplies Index = 264.2

2013Q2 Materials & Supplies Index = 261.0

Difference 3.2 basis points  
or  
1.2 %



## Equipment Rents Third Quarter 2013

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

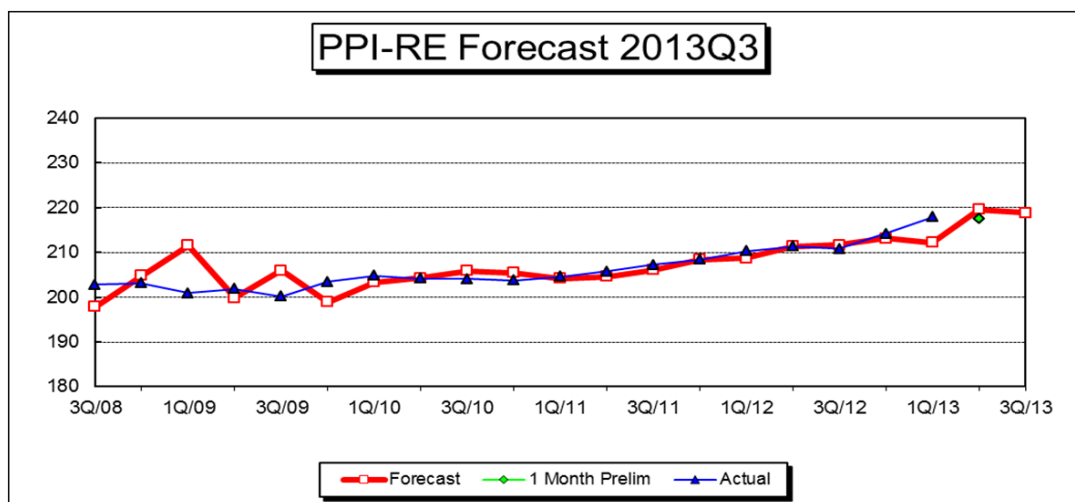
The table below calculates the Equipment Rent Index. The third quarter Car Hire portion of the Index increased 0.5 percent, mostly because of higher rates for tank cars and autoracks. A 0.5 percent increase for the projected PPI-LF (See Appendix G) used as a proxy for Lease Rentals, combined with the 0.5 percent increase for Car Hire, caused the Equipment Rent Index to increase 0.5 percent.

	2011 Weight	2013Q2	2013Q3	Percent Change
Car Hire	48.6%	177.4	178.3	0.5 %
Lease Rentals	51.4%	220.2	221.4	0.5
Weighted Average		199.4	200.5	0.6
Weighted Average (Linked)		206.9	208.0	0.5

## Depreciation Third Quarter 2013

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 monthly PPI-RE figures that jumped in October and January. The small decrease for the third quarter forecast might be caused by a second quarter forecast that was slightly high.

Forecast of Depreciation Index (1982=100)	197.9
Forecast of Depreciation Index (1980=100)	218.9
Change from previous quarter forecast	-0.3%
Change from actual first month of previous quarter	0.6%
Change from same quarter of prior year (actual)	3.8%



## Depreciation Third Quarter 2013

### PPI RAILROAD EQUIPMENT

Recommended model: Exponential Smoothing  
 Forecast Model for PPIRE  
 Holt exponential smoothing: Linear trend, No seasonality

Component	Smoothing Weight	Final Value
Level	0.69347	196.71
Trend	0.01840	0.29158

### Within-Sample Statistics

Sample size 72	Number of parameters 2
Mean 184.9	Standard deviation 5.548
R-square 0.9617	Adjusted R-square 0.9612
Durbin-Watson 1.953	Ljung-Box(18)=15.4 P=0.366
Forecast error 1.093	BIC 1.144
MAPE 0.003668	RMSE 1.078
MAD 0.68	

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

Date	Actual
2012-11	193.900
2012-12	194.100
2013-01	197.700
2013-02	197.200
2013-03	196.000
2013-04	196.700

### Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2013-05	194.760	197.003	199.245
2013-06	194.549	197.294	200.039
2013-07	194.417	197.586	200.755
2013-08	194.334	197.877	201.420
2013-09	194.288	198.169	202.050
<b>QTR AVG</b>	<b>194.346</b>	<b>197.877</b>	<b>201.408</b>

## Interest Third Quarter 2013

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. Beginning with fourth quarter 2012, the Interest Index is based on data for 2011.

The interest index is the latest year's interest rate divided by 7.85 percent, which was the interest rate in the 1980 base period.

### 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

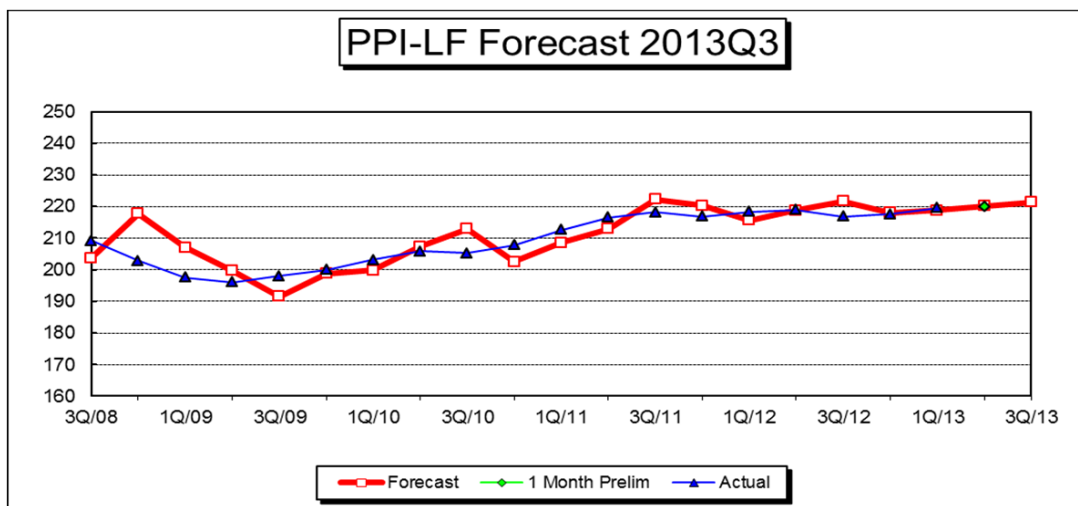
2011	Interest Rate	7.29%
1980	Interest Rate	7.85%
<b>2013Q3</b>	<b>Interest Index</b>	<b>92.9</b>
2013Q2	Interest Index	92.9
	Percent Change	0.0%

## Other Expenses Third Quarter 2013

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 figure forecast by the model for the third quarter reflects stability in the monthly PPI-LF figures, which have increased and decreased by small amounts recent months.

Forecast of Other Expense Index (1982=100)	197.5
Forecast of Other Expense Index (1980=100)	221.4
Change from previous quarter forecast	0.5%
Change from actual first month of previous quarter	0.6%
Change from same quarter of prior year (actual)	2.1%



## Other Expenses Third Quarter 2013

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

Recommended model: Exponential Smoothing  
 Forecast Model for PPILF  
 Holt exponential smoothing: Linear trend, No seasonality

Component	Smoothing Weight	Final Value
Level	1.00000	196.20
Trend	0.01864	0.31872

**Within-Sample Statistics**

Sample size 72	Number of parameters 2
Mean 184.6	Standard deviation 8.422
R-square 0.9832	Adjusted R-square 0.983
Durbin-Watson 0.5601	**Ljung-Box(18)=91.51 P=1
Forecast error 1.098	BIC 1.149
MAPE 0.004285	RMSE 1.083
MAD 0.7879	

*Actual Values for the Most Recent 6 Periods:*

Date	Actual
2012-11	194.000
2012-12	194.200
2013-01	195.100
2013-02	196.000
2013-03	196.400
2013-04	196.200

*Forecasted Values*

Date	2.5 Lower	Forecast	97.5 Upper
2013-05	194.266	196.519	198.772
2013-06	193.622	196.837	200.053
2013-07	193.206	197.156	201.107
2013-08	192.906	197.475	202.044
2013-09	192.681	197.794	202.906
<b>QTR AVG</b>	<b>192.931</b>	<b>197.475</b>	<b>202.019</b>

## Railroad and Union Abbreviations

### Third Quarter 2013

#### *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.)
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.)
DMIR	Duluth, Missabe & Iron Range Company (Part of CN's Grand Trunk Corp.)
DWP	Duluth, Winnipeg & Pacific Railway (Part of CN's Grand Trunk Corp.)
EJE	Elgin, Joliet & Eastern Railway (Part of CN's Grand Trunk Corp.)
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.)

#### *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)