

ASSOCIATION
OF AMERICAN
RAILROADS

John T. Gray
Senior Vice President - Policy & Economics

September 5, 2014

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 fourth quarter 2014 All-Inclusive Index and Rail Cost Adjustment Factor, filed in Ex Parte No. 290 (Sub-No. 5) (2014-4) *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 fourth quarter 2014 results on the fourth quarter 2012 base, revised in the 2014Q1 filing, and shows the percentage changes from the previous quarter.

| | <u>2014Q3</u> | <u>2014Q4</u> | <u>% Change</u> |
|--------------------------------|---------------|---------------|-----------------|
| All-Inclusive Index | 99.5 | 98.5 | -1.0 |
| Preliminary RCAF | 0.995 | 0.985 | -1.0 |
| Forecast Error Adjustment | -0.010 | -0.008 | |
| RCAF (Unadjusted) | 0.985 | 0.977 | -0.8 |
| Productivity Adjustment Factor | 2.3226 | 2.3284 | |
| RCAF (Adjusted) | 0.424 | 0.420 | -0.9 |
| PAF-5 | 2.4588 | 2.4642 | |
| RCAF-5 | 0.401 | 0.396 | -1.2 |

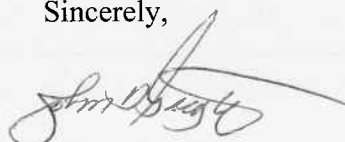
Page 2

September 5, 2014

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 Paul Aguiar, 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. Aguiar'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

**Fourth Quarter 2014
All-Inclusive Index**

Ex Parte No. 290 (Sub-No. 5) (2014-4)

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

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

September 5, 2014

Table of Contents

| Subject | Page |
|---|-------------|
| Introduction | 1 |
| Index Weights | 2 |
| All-Inclusive Index - Fourth Quarter 2014 | 3 |
| Forecast vs. Actual All Inclusive Index - Second Quarter 2014 | 4 |
| Productivity | 5 |
| Rail Cost Adjustment Factor - Fourth Quarter 2014 | 6 |
| Appendices | |
| A Labor | |
| B Fuel | |
| C Materials & Supplies | |
| D Equipment Rents | |
| E Depreciation | |
| F Interest | |
| G Other Expenses | |
| H Railroad and Union Abbreviations | |

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 fourth quarter 2014.

Each year's fourth quarter calculation utilizes new weights, which can be found on page 2. New 2013 annual report and wage statistics data have also been utilized to rebenchmark labor (see Appendix A) and to calculate a new Interest Index (see Appendix F).

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.

| Weights for RCAF's All-Inclusive Index | | |
|---|-------------|-------------|
| | 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 Fourth Quarter 2014

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 2014Q3 | Current 2014Q4 | |
| 1. Labor | 31.6% | 395.4 | 389.7 | -1.4 % |
| 2. Fuel | 22.1% | 375.9 | 368.8 | -1.9 |
| 3. M&S | 4.9% | 271.2 | 276.6 | 2.0 |
| 4. Equipment Rents | 5.4% | 212.2 | 213.0 | 0.4 |
| 5. Depreciation | 12.0% | 217.1 | 217.4 | 0.1 |
| 6. Interest | 1.9% | 76.6 | 70.6 | -7.8 |
| 7. Other | 22.1% | 222.9 | 223.2 | 0.1 |
| 8. Weighted Average | | | | |
| a. 1980 = 100 | | 309.5 | 306.5 | |
| b. 1980 = 100 (linked) | | 296.1 | 293.2 ¹ | |
| c. 4Q12 = 100 | | 99.5 | 98.5 ² | -1.0 |

Note: The 309.5 weighted average for 2014Q3 is recalculated with 2013 weights to eliminate any changes in the fourth quarter index that would be caused by changing weights. The Q3 weighted average with 2012 weights is 309.0.

$$\begin{aligned}
 {}^1 \text{ Index}_{80} &= (\text{Current Index} / \text{Previous Index}) * \text{the Previous Quarter Linked Index} \\
 &= (306.5 / 309.5) \times 296.1 \\
 &= 293.2
 \end{aligned}$$

² To calculate the 4Q12 = 100 index:

$$\begin{aligned}
 \text{Index}_{4Q12} &= (\text{Current Linked Index} / 4Q12 Basing Factor) * 100 \\
 &= 293.2 \text{ divided by } 297.6 \text{ times } 100 \\
 &= 98.5
 \end{aligned}$$

Indexes based on other periods:

- 4Q07 based index = 293.2 / 245.9 x 100 = 119.2
- 4Q02 based index = 293.2 / 192.1 x 100 = 152.6
- 4Q97 based index = 293.2 / 173.2 x 100 = 169.3
- 4Q92 based index = 293.2 / 156.9 x 100 = 186.9
- 4Q87 based index = 293.2 / 132.2 x 100 = 221.8

Forecast vs. Actual All-Inclusive Index Second Quarter 2014

Because of data availability, the forecast error adjustment has a two-quarter lag from each filing. As shown below, the second quarter actual index of 98.9 is 0.8 index points below the forecast value of 99.7. Therefore, the forecast error adjustment for fourth quarter 2014 is -0.8 index points.

| | 2012 Weights | Second Quarter 2014 | | Amt Difference |
|---------------------------------|-----------------|---------------------|--------------------|-------------------|
| | | Forecast | Actual | |
| 1. Labor | 31.2% | 388.1 | 388.1 | |
| 2. Fuel | 22.3% | 386.2 | 381.1 | |
| 3. M&S | 4.9% | 274.8 | 274.8 | |
| 4. Equipment Rents ¹ | 5.6% | 212.6 | 211.6 | |
| 5. Depreciation | 11.9% | 216.9 | 217.3 | |
| 6. Interest | 2.0% | 76.6 | 76.6 | |
| 7. Other | 22.1% | 225.2 | 221.6 | |
| 8. Weighted Average | | | | |
| a. 1980 = 100 | | 309.7 | 307.8 | |
| b. 1980 = 100 (linked) | | 296.8 | 294.4 ² | |
| c. 4Q12 = 100 ³ | | 99.7 | 98.9 | -0.8 |

Forecast error \longrightarrow **-0.8 index points**

| 1 | 2012 Weights | Second Quarter 2014 | |
|---------------------------|-----------------|---------------------|--------|
| | | Forecast | Actual |
| Car-Hire | 48.2% | 183.5 | 184.6 |
| Lease Rentals | 51.8% | 225.2 | 221.6 |
| Weighted Average | | 205.1 | 203.8 |
| Weighted Average (linked) | | 212.6 | 211.6 |

² Linked actual index = (actual index / previous actual index) x previous linked actual index.
 $294.4 = 307.8 / 303.4 \times 290.2$

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 March 4, 2014, the Surface Transportation Board (STB) served a decision in Ex Parte 290 (Sub-No. 4) which added the year 2012 to the Productivity Adjustment Factor (PAF) and removed the year 2007. This creates a geometric average annual productivity change, for the five-year period 2008 through 2012, of 1.0 percent per year. The components of this average annual value are shown on the following table in ratio format – therefore, 1.010 is the same as an increase of 1.0 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 | | | |
|--|---------------------|--------------------|--|
| 2008 - 2012 | | | |
| Year | Output Index (1) | Input Index (2) | Productivity ¹ Changes (3) |
| 2008 | 0.990 | 0.970 | 1.021 |
| 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 |
| Average | | | 1.010 |
| Previous Average (2007-2011) | | | 1.009 |

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 2008-2012, use fourth root of avg. productivity change = 1.0025 | | | |
| For 2007-2011, use fourth root of avg. productivity change = 1.0022 | | | |
| Quarter | Year | PAF | PAF-5 |
| Q1 | 2014 | 2.3110 | 2.4480 |
| Q2 | 2014 | 2.3168 | 2.4534 |
| Q3 | 2014 | 2.3226 | 2.4588 |
| Q4 | 2014 | 2.3284 | 2.4642 |
| Q1 | 2015 | 2.3342 | 2.4704 |

Rail Cost Adjustment Factor Fourth Quarter 2014

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 2014Q3 | Current 2014Q4 | Percent Change |
|---|--------------------|-------------------|-------------------|
| All-Inclusive Index ¹ | 99.5 | 98.5 | -1.0 |
| Preliminary RCAF ² | 0.995 | 0.985 | -1.0 |
| Forecast Error Adjustment ³ | <u>-0.010</u> | <u>-0.008</u> | |
| RCAF (Unadjusted) ⁴ | 0.985 | 0.977 | -0.8 |
| Productivity Adjustment Factor ⁵ | <u>2.3226</u> | <u>2.3284</u> | |
| RCAF (Adjusted) ⁶ | 0.424 | 0.420 | -0.9 |
| PAF-5 ⁷ | 2.4588 | 2.4642 | |
| RCAF-5 ⁸ | 0.401 | 0.396 | -1.2 |

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

Fourth Quarter 2014

The fourth quarter 2014 Labor Index is forecast to decrease 1.4 percent from the previous quarter. Much of the decrease was caused by rebenchmarking to more recent wage statistics and annual report data.

Rebenchmarking and Reweighting: Rebenchmarking, as well as updating the internal weights (i.e., the proportion of labor costs represented by wages and supplements, respectively), is reflected each year in the fourth quarter filing. The Labor rate is basically a group of benchmarks from annual data that are updated each quarter using additional information such as labor agreements, payroll tax rates, health & welfare rates, and other data. By rebenchmarking to newer annual data, the number of quarterly updates (the "distance") from the benchmark year to the current quarter becomes smaller – increasing the probability that the updated values match reality. Therefore, the impact of rebenchmarking is captured in the Labor Index, and by itself can cause a change in the index.

The new benchmark year is 2013, and data for that year replaces data for 2012. The 2013 data underlying the fourth quarter rebenchmarking are obtained from a summary of the railroads' 112-Class Wage Statistics and a summary of the railroads' Annual Report Form R-1 submitted to the Surface Transportation Board.

The source for the wage and supplements internal weights, like the external weights, is also the Annual Report Form R-1 Summary. Unlike rebenchmarking, reweighting by itself is prevented from causing a change in the index. A linking process, where the previous quarter unlinked index is recalculated using the new weights, eliminates changes that would be caused solely by changing weights.

Wage Rate Index

The Wage Rate Index portion of the Labor Index decreased 1.7 percent. Most of this change was caused by rebenchmarking to 2013 wage statistics.

Wage Increases: The base wage rate decreased 1.7 percent because of rebenchmarking. There are no wage increases scheduled for the fourth quarter. Two August independent wage increases are now fully affecting the rate for the fourth quarter.

Lump Sums: No new lump sum amounts were added for the fourth quarter, and one very small amount was completely amortized and removed. The decrease of 0.1 cents was caused by rebenchmarking.

Back Pay: The fourth quarter back pay rate increased 0.1 cents. Two small amounts were completely amortized and removed, and two new amounts (also small) were added. The new amounts were one quarter of back pay for national-agreement IBBM employees and three quarters of back pay for a small group of non-union employees.

Other: In wages, "Other" contains the amortization of incentive payments that a railroad makes each year to its dispatchers, yardmasters, and engineers. Rebenchmarking caused this rate to decrease 0.1 cents.

Labor

Fourth Quarter 2014

Supplements Index

The Supplements Index decreased 1.1 percent. Although the net result of rebenchmarking was a small decrease in the index, much of the total decrease was caused by lower employer 401(k) matches.

Health & Welfare: The Health & Welfare rate increased 4.1 cents (0.5 percent) from the previous quarter. Rebenchmarking to 2013 data caused the entire change.

Railroad Retirement: The Railroad Retirement rate decreased 0.8 percent. The change was caused almost entirely by rebenchmarking. Rebenchmarking was the major cause of lower taxable earnings for the quarter, and the Railroad Retirement rate was rebenchmarking to 2013 annual report data and wage statistics.

Unemployment Insurance: The Unemployment Insurance rate was unchanged for the fourth quarter. Rebenchmarking did not cause a change in this rate, and taxable earnings were already beyond the maximum taxable amount.

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 fourth quarter, the rate decreased 15.7 cents as employers typically have fewer contributions for perfect attendance and other bonus matches.

Labor Index Calculation

As shown in Table A-1 on the next page, the 1.7 percent decrease in the Wage Rate Index and the 1.1 percent decrease in the Supplements Index combined to cause a 1.4 percent decrease in the Labor Index. The linked fourth quarter 2014 index of 389.7 is determined by multiplying the third quarter linked index of 395.4 times the change between the fourth quarter labor index (410.0) and the original third quarter labor index recalculated (416.0) using the original third quarter Wage Rate and Supplements indexes weighted with the new 2013 weights. This method eliminates changes caused by the new weights, but captures changes caused by rebenchmarking. Therefore, the purpose of the center "Updated to Reflect..." column in Table A-1 is only to enable the reader to discern the impact of rebenchmarking.

Labor
Fourth Quarter 2014
Table A-1 Labor Index

| | 2014Q3 | | 2014Q4 | |
|---|-------------------------------------|---|-----------------------|---------------------------------|
| | Used in Previous Index Filing | Updated to Reflect 2013 Actual Data | Based on 2013 Data | Pct Chg From Prev. Filing |
| <u>Base Wage</u> – Straight Time & Pay For Time Not Worked | \$39.639 | \$38.964 | \$38.974 | -1.7% |
| Adjustments: | | | | |
| Lump Sum | 0.316 | 0.315 | 0.315 | -0.3% |
| Back Pay | 0.093 | 0.093 | 0.094 | 1.1% |
| Other | 0.137 | 0.136 | 0.136 | -0.7% |
| Total Wages | 40.185 | \$39.508 | 39.519 | -1.7% |
| Health & Welfare Benefits | 7.611 | 7.652 | 7.652 | 0.5% |
| RR Retirement & Medicare | 7.896 | 7.834 | 7.835 | -0.8% |
| Unemployment Insurance | 0.059 | 0.059 | 0.059 | 0.0% |
| Other | 0.263 | 0.262 | 0.106 | -59.7% |
| Total Supplements | \$15.829 | \$15.807 | \$15.652 | -1.1% |
| Total Labor (a check sum only) | \$56.014 | \$55.315 | \$55.171 | |
| Wage Index¹ | 343.9 | 338.1 | 338.2 | -1.7% |
| Supplements Index² | 585.0 | 584.1 | 578.4 | -1.1% |
| Total labor Index, 2012 Weights ³ | 418.2 | | | |
| Total labor Index, 2013 Weights ⁴ | 416.0 | 411.7 | 410.0 | |
| Labor Index (linked)⁵ | 395.4 | | 389.7 | -1.4% |

¹ 1980 wage rate \$11.685

² 1980 supplements rate \$2.706

³ 2012 weights: wages, supplements 69.2% 30.8%

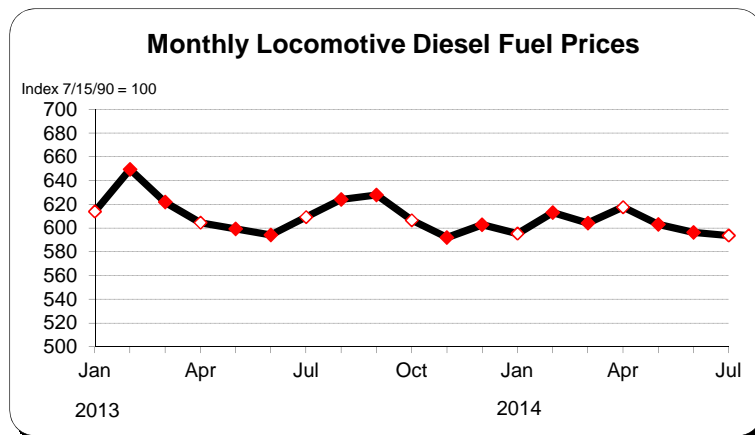
⁴ 2013 weights: wages, supplements 70.1% 29.9%

⁵ 2014Q4 linked Index = 2014Q3_{linked} x (2014Q4_{WT2013} / 2014Q3_{WT2013})
 = 395.4 x 410.0 / 416.0

Fuel Fourth Quarter 2014

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 decreased in July, and have been somewhat stable in recent months. The chart below shows the AAR's Monthly Locomotive Diesel Fuel Price Index from January 2013 through July 2014.



While the latest average prices for locomotive diesel fuel are available only through July 2014, data through most of August are available for related fuel types. Weekly crude oil* futures prices were falling in August, as were spot prices. However, U.S. distillate stocks (which include locomotive diesel fuel and heating oil**) are at the low end of their 5-year range, and distillates may be ready for a seasonal price increase. In 20 of the last 25 years, October prices for both locomotive diesel fuel and heating oil were higher than their prices for July. Railroads believe prices for October 2014 (Q4) will be 1.9 percent lower than the third quarter forecast (represented by July 2014), and 0.7 percent higher than the average price actually paid in July.

| | |
|---------------------------------------|-------|
| Forecast Fuel Index (1980 = 100) | 368.8 |
| Change from previous quarter forecast | -1.9% |
| Change from previous quarter actual | 0.7% |

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

** 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.

Materials & Supplies

Fourth Quarter 2014

The fourth quarter 2014 Materials & Supplies Index increased 2.0 percent from the previous quarter. The change was caused by increases in prices for Miscellaneous Products and Forest Products.

2014Q4 Materials & Supplies Index = 276.6

2014Q3 Materials & Supplies Index = 271.2

| | |
|------------|------------------|
| Difference | 5.4 basis points |
| | or |
| | 2.0 % |

Equipment Rents Fourth Quarter 2014

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. In this Q4 submission, data from the September 1 CHARM file were not yet available because of a delay in Umler processing. The mid-August CHARM file was used instead. 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

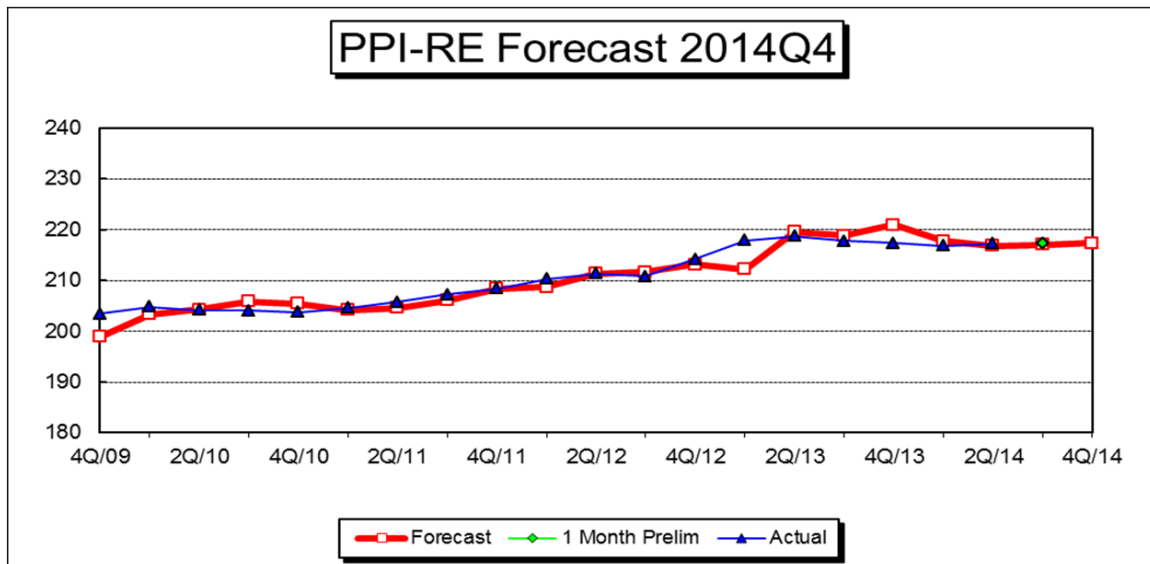
The table below calculates the Equipment Rents Index, and features new weights based on annual report data for 2013. To eliminate any changes caused by the new weights, the third quarter weighted average (but not the linked value) has been recalculated using the new weights. The original third quarter weighted average using 2012 weights is 204.7. The fourth quarter Car Hire portion of the Index increased 0.6 percent because of higher rates for privately-owned cars (especially auto racks and tank cars). A 0.1 percent increase for the projected PPI-LF (See Appendix G) used as a proxy for Lease Rentals, combined with the 0.6 percent increase for Car Hire, caused the Equipment Rent Index to increase 0.4 percent.

| | 2013 Weight | 2014Q3 | 2014Q4 | Percent Change |
|---------------------------|----------------|--------|--------|-------------------|
| Car Hire | 52.8% | 185.1 | 186.2 | 0.6 % |
| Lease Rentals | 47.2% | 222.9 | 223.2 | 0.1 |
| Weighted Average | | 202.9 | 203.7 | 0.4 |
| Weighted Average (Linked) | | 212.2 | 213.0 | 0.4 |

Depreciation Fourth Quarter 2014

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, with little net change.

| | |
|--|-------|
| Forecast of Depreciation Index (1982=100) | 196.5 |
| Forecast of Depreciation Index (1980=100) | 217.4 |
| Change from previous quarter forecast | 0.1% |
| Change from actual first month of previous quarter | 0.0% |
| Change from same quarter of prior year (actual) | 0.0% |



Depreciation Fourth Quarter 2014

PPI RAILROAD EQUIPMENT

Exponential smoothing outperforms Box-Jenkins by 1.024 to 1.097 out-of-sample Mean Absolute Deviation. I tried 78 forecasts up to a maximum horizon 12.

Series is trended and nonseasonal.

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

| Component | Smoothing Weight | Final Value |
|-----------|------------------|-------------|
| Level | 0.77187 | 196.45 |

Within-Sample Statistics

| | |
|----------------------|------------------------------|
| Sample size 72 | Number of parameters 1 |
| Mean 188.6 | Standard deviation 5.648 |
| R-square 0.9626 | Adjusted R-square 0.9626 |
| Durbin-Watson 2.009 | Ljung-Box(18)=11.62 P=0.1339 |
| Forecast error 1.092 | BIC 1.117 |
| MAPE 0.003596 | RMSE 1.084 |
| MAD 0.6814 | |

Actual Values for the Most Recent 6 Periods:

| Date | Actual |
|---------|--------|
| 2014-02 | 197.4 |
| 2014-03 | 196.8 |
| 2014-04 | 196.3 |
| 2014-05 | 196.0 |
| 2014-06 | 196.8 |
| 2014-07 | 196.4 |

Forecasted Values

| Date | 2.5 Lower | Forecast | 97.5 Upper |
|----------------|-----------|----------|------------|
| 2014-08 | 194.265 | 196.455 | 198.644 |
| 2014-09 | 193.689 | 196.455 | 199.221 |
| 2014-10 | 193.213 | 196.455 | 199.696 |
| 2014-11 | 192.799 | 196.455 | 200.110 |
| 2014-12 | 192.428 | 196.455 | 200.482 |
| QTR AVG | 192.8133 | 196.455 | 200.096 |

Interest Fourth Quarter 2014

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 |

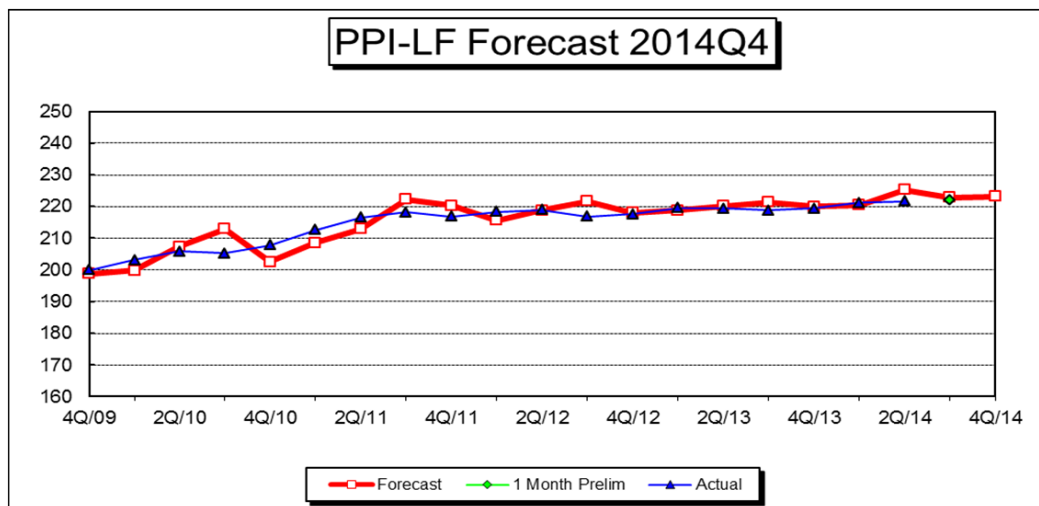
| | | |
|---------------|-----------------------|-------------|
| 2013 | Interest Rate | 5.54% |
| 1980 | Interest Rate | 7.85% |
| 2014Q4 | Interest Index | 70.6 |
| 2014Q3 | Interest Index | 76.6 |
| | Percent Change | -7.8% |

Other Expenses Fourth Quarter 2014

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 forecast reflects recent PPI-LF figures that have shown little change.

| | |
|--|-------|
| Forecast of Other Expense Index (1982=100) | 199.1 |
| Forecast of Other Expense Index (1980=100) | 223.2 |
| Change from previous quarter forecast | 0.1% |
| Change from actual first month of previous quarter | 0.5% |
| Change from same quarter of prior year (actual) | 1.7% |



Other Expenses Fourth Quarter 2014

PPI INDUSTRIAL COMMODITIES LESS FUELS AND RELATED PRODUCTS AND POWER

Box-Jenkins outperforms exponential smoothing by 1.185 to 1.732 out-of-sample Mean Absolute Deviation. I tried 78 forecasts up to a maximum horizon 12.

Series is trended and seasonal.

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

| Term | Coefficient | Std. Error | t-Statistic | Significance |
|-------|-------------|------------|-------------|--------------|
| a[1] | 0.7469 | 0.0787 | 9.4964 | 1.0000 |
| A[12] | 0.4226 | 0.0962 | 4.3932 | 1.0000 |

Within-Sample Statistics

| | |
|-----------------------|-----------------------------|
| Sample size 72 | Number of parameters 2 |
| Mean 189 | Standard deviation 7.663 |
| R-square 0.9933 | Adjusted R-square 0.9932 |
| Durbin-Watson 1.848 | Ljung-Box(18)=11.4 P=0.1235 |
| Forecast error 0.6326 | BIC 0.6619 |
| MAPE 0.002534 | RMSE 0.6237 |
| MAD 0.477 | |

Actual Values for the Most Recent 6 Periods:

| Date | Actual |
|---------|--------|
| 2014-02 | 197.6 |
| 2014-03 | 197.3 |
| 2014-04 | 197.9 |
| 2014-05 | 197.5 |
| 2014-06 | 197.6 |
| 2014-07 | 198.0 |

Forecasted Values

| Date | 2.5 Lower | Forecast | 97.5 Upper |
|----------------|-----------|----------|------------|
| 2014-08 | 197.173 | 198.404 | 199.635 |
| 2014-09 | 196.112 | 198.590 | 201.068 |
| 2014-10 | 195.151 | 198.919 | 202.686 |
| 2014-11 | 194.070 | 199.112 | 204.153 |
| 2014-12 | 193.120 | 199.393 | 205.667 |
| QTR AVG | 194.114 | 199.141 | 204.169 |

Railroad and Union Abbreviations

Fourth Quarter 2014

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.) |
| 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) |