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Senior Vice President - Policy & Economics

March 3, 2016

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 2016 All-Inclusive Index and Rail Cost Adjustment Factor, filed in Ex Parte No. 290 (Sub-No. 5) (2016-2) *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 2016 results on the fourth quarter 2012 base, and shows the percentage changes from the previous quarter.

	<u>2016Q1</u>	<u>2016Q2</u>	<u>% Change</u>
All-Inclusive Index	88.2	85.2	-3.4
Preliminary RCAF	0.882	0.852	-3.4
Forecast Error Adjustment	-0.018	-0.012	
RCAF (Unadjusted)	0.864	0.840	-2.8
Productivity Adjustment Factor	2.3502	2.3584	
RCAF (Adjusted)	0.368	0.356	-3.3
PAF-5	2.4932	2.4974	
RCAF-5	0.347	0.336	-3.2

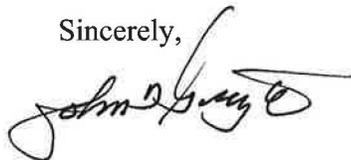
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In its October 3, 1996 decision in Ex Parte No. 290 (Sub-No. 7), *Productivity Adjustment - Implementation*, the STB noted its intent to publish, in addition to the RCAF (Unadjusted) and RCAF (Adjusted), an RCAF-5 (i.e., a calculation of the productivity 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 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". The signature is written in a cursive style with a large, sweeping initial "J".

John T. Gray

Attachments

**Second Quarter 2016
All-Inclusive Index**

Ex Parte No. 290 (Sub-No. 5) (2016-2)

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

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

March 3, 2016

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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 2016. Calculations utilize the Surface Transportation Board's latest Productivity Adjustment decision, which was served in a late release on February 12, 2016.

Index Weights

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

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

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

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

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

All-Inclusive Index Second Quarter 2016

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

	2014 Weights	Forecast		Percent Change
		Previous 2016Q1	Current 2016Q2	
1. Labor	31.7%	417.7	416.4	-0.3 %
2. Fuel	20.9%	191.2	148.7	-22.2
3. M&S	5.2%	246.9	246.9	0.0
4. Equipment Rents	5.4%	214.3	215.1	0.4
5. Depreciation	12.6%	226.0	227.2	0.5
6. Interest	1.5%	57.5	57.5	0.0
7. Other	22.7%	215.5	215.1	-0.2
8. Weighted Average				
a. 1980 = 100		275.0	265.8	
b. 1980 = 100 (linked)		262.5	253.7 ¹	
c. 4Q12 = 100		88.2	85.2 ²	-3.4

¹ Index80 = (Current Index / Previous Index) * the Previous Quarter Linked Index
= (265.8 / 275.0) x 262.5
= 253.7

² To calculate the 4Q12 = 100 index:
Index4Q12 = (Current Linked Index / 4Q12 Basing Factor) * 100
= 253.7 divided by 297.6 times 100
= 85.2

Indexes based on other periods:

- 4Q07 based index = 253.7 / 245.9 x 100 = 103.2
- 4Q02 based index = 253.7 / 192.1 x 100 = 132.1
- 4Q97 based index = 253.7 / 173.2 x 100 = 146.5
- 4Q92 based index = 253.7 / 156.9 x 100 = 161.7
- 4Q87 based index = 253.7 / 132.2 x 100 = 191.9

Forecast vs. Actual All-Inclusive Index Fourth Quarter 2015

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 87.3 is 1.2 index points below the forecast value of 88.5. Therefore, the forecast error adjustment for second quarter 2016 is -1.2 index points.

	2014 Weights	Fourth Quarter 2015		Amt Difference
		Forecast	Actual	
1. Labor	31.7%	403.6	403.6	
2. Fuel	20.9%	210.8	198.5	
3. M&S	5.2%	264.8	264.8	
4. Equipment Rents ¹	5.4%	214.7	214.3	
5. Depreciation	12.6%	223.5	225.6	
6. Interest	1.5%	57.5	57.5	
7. Other	22.7%	218.2	215.8	
8. Weighted Average				
a. 1980 = 100		275.9	273.0	
b. 1980 = 100 (linked)		263.4	259.8 ²	
c. 4Q12 = 100 ³		88.5	87.3	-1.2

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

Note: The standard linking procedure has been used to eliminate any changes to indexes that would be caused by updating weights. The Q3 unlinked weighted averages for the All-Inclusive Indexes (forecast and actual) and for Equipment Rents (forecast and actual) were recalculated using the new (2014) weights.

1	2014 Weights	Fourth Quarter 2015	
		Forecast	Actual
Car-Hire	56.5%	193.8	194.8
Lease Rentals	43.5%	218.2	215.8
Weighted Average		204.4	203.9
Weighted Average (linked)		214.7	214.3

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

$$259.8 = 273.0 / 277.8 \times 264.4$$

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

Productivity

On February 12, 2016, the Surface Transportation Board (STB) served a decision in Ex Parte 290 (Sub-No. 4) which added the year 2014 to the Productivity Adjustment Factor (PAF) and removed the year 2009. This creates a geometric average annual productivity change, for the five-year period 2010 through 2014, of 1.4 percent per year. The components of this average annual value are shown on the following table in ratio format – therefore, 1.014 is the same as an increase of 1.4 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			
2010 - 2014			
Year	Output Index (1)	Input Index (2)	Productivity ¹ Changes (3)
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
2014	1.055	1.036	1.018
Average			1.014
Previous Average (2009-2013)			1.007

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 2010-2014, use fourth root of avg. productivity change = 1.0035			
For 2009-2013, use fourth root of avg. productivity change = 1.0017			
Quarter	Year	PAF	PAF-5
Q1	2016	2.3502	2.4932
Q2	2016	2.3584	2.4974
Q3	2016	2.3667	2.5016
Q4	2016	2.3750	2.5059
Q1	2017	2.3833	2.5147

Rail Cost Adjustment Factor Second Quarter 2016

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

	Previous 2016Q1	Current 2016Q2	Percent Change
All-Inclusive Index ¹	88.2	85.2	-3.4
Preliminary RCAF ²	0.882	0.852	-3.4
Forecast Error Adjustment ³	<u>-0.018</u>	<u>-0.012</u>	
RCAF (Unadjusted) ⁴	0.864	0.840	-2.8
Productivity Adjustment Factor ⁵	<u>2.3502</u>	<u>2.3584</u>	
RCAF (Adjusted) ⁶	0.368	0.356	-3.3
PAF-5 ⁷	2.4932	2.4974	
RCAF-5 ⁸	0.347	0.336	-3.2

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

Second Quarter 2016

The second quarter 2016 Labor Index is forecast to decrease 0.3 percent from the previous quarter. Much of the decrease can be attributed to a few lump sum amounts becoming fully amortized and removed from the index. Nearly all other changes were very small.

Wage Rate Index

The Wage Rate Index portion of the Labor Index decreased 0.4 percent. A drop in the lump sum rate was mostly offset by small increases in hourly wages and back pay.

Wage Increases: No wage increases are currently scheduled for the second quarter in any national or independent labor agreements. One independent contract snapped back to the national agreement, causing a small increase.

Lump Sums: The second quarter lump sum rate decreased by 24.6 cents as six amounts from last year became fully amortized and were removed from the index. Two new amounts were added to the index. Two of the four amounts that were not replaced were the result of independent labor agreements rejoining national agreements (referred to as a "snap back") that do not feature bonuses. The other two amounts not replaced were one-time signing bonuses related to new independent labor agreements.

Back Pay: The second quarter back pay rate increased by 2.7 cents. This change was the net result of four amounts from last year being fully amortized and removed plus two new back pay amounts being added. One of the new back pay amounts was related to a snap back, as explained above.

Other: In wages, "Other" contains the amortization of incentive payments that a railroad makes each year to its dispatchers, yardmasters, and engineers. The current incentive payment amount is for a payment made in early 2015 for performance in 2014. This amount is unchanged. For the next quarter, this amount will be fully amortized and replaced with the 2016 incentive payment.

Supplements Index

The Supplements Index decreased 0.2 percent, or 3.7 cents. Three of the four supplements categories had small decreases, while one did not change.

Health & Welfare: The Health & Welfare rate decreased by 0.1 cents. The change was caused by increased employee health & welfare cost sharing, which lowers employer costs, for one small railroad.

Railroad Retirement: The Railroad Retirement rate decreased 0.3 percent (or 2.2 cents). The decrease was caused by slightly lower taxable earnings.

Unemployment Insurance: The Unemployment Insurance rate did not change from the previous quarter.

Labor

Second Quarter 2016

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 second quarter, the rate dropped 8.5 percent – but this is a decrease of only 1.4 cents in the rate. The decrease was caused mostly by lower employer matches to employee 401(k) accounts.

Labor Index Calculation

As shown in Table A-1 on the next page, the 0.4 percent decrease in the Wage Rate Index and the 0.2 percent decrease in the Supplements Index combined to cause a 0.3 percent decrease in the Labor Index. The linked second quarter 2016 index is 416.4.

Labor Second Quarter 2016

Table A-1 Labor Index

	2016Q1	2016Q2	Change	
			Percent	Amount
<u>Base Wage</u> – Straight Time & Pay For Time Not Worked	\$41.402	\$41.465	0.2%	\$0.063
Adjustments:				
Lump Sum	0.392	0.146	-62.8%	-\$0.246
Back Pay	0.131	0.158	20.6%	\$0.027
Other	0.157	0.157	0.0%	\$0.000
Total Wages	<u>42.082</u>	<u>41.926</u>	-0.4%	-\$0.156
Health & Welfare Benefits	8.043	8.042	0.0%	-\$0.001
RR Retirement & Medicare	8.496	8.474	-0.3%	-\$0.022
Unemployment Insurance	0.240	0.240	0.0%	\$0.000
Other	0.164	0.150	-8.5%	-\$0.014
Total Supplements	<u>\$16.943</u>	<u>\$16.906</u>	-0.2%	-\$0.037
Total Labor (as info only)	\$59.025	\$58.832		
Wage Index¹	360.1	358.8	-0.4%	
Supplements Index²	626.1	624.8	-0.2%	
Total labor Index, 2014 Weights ³	434.3	433.0		
Labor Index (linked)⁴	417.7	416.4	-0.3%	

¹ 1980 wage rate \$11.685

² 1980 supplements rate \$2.706

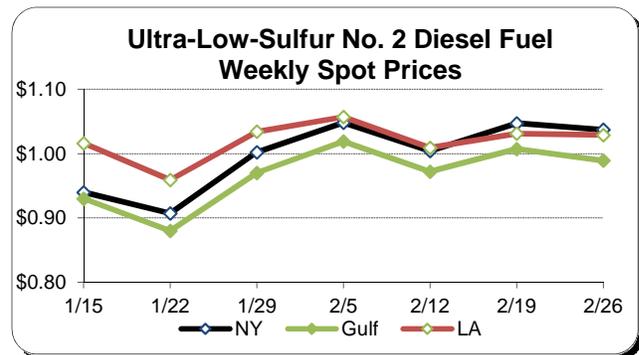
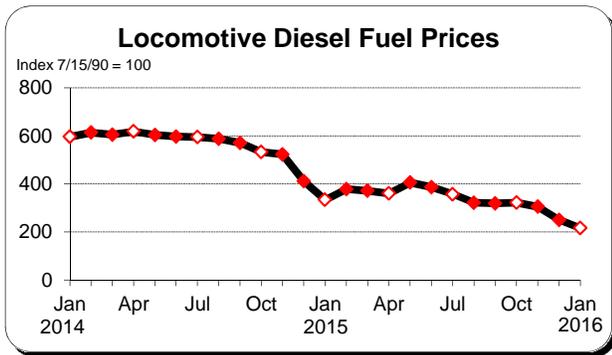
³ 2014 weights: wages, supplements 72.1% 27.9%

⁴ 2016Q2 linked Index = 2016Q1 linked x (2016Q2 / 2016Q1)
= 417.7 x 433.0 / 434.3

Fuel Second Quarter 2016

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

Locomotive diesel fuel prices have been trending downward, and January 2016 was the lowest average in over 10 years. The chart below shows the AAR's Monthly Locomotive Diesel Fuel Price Index from January 2014 through January 2016. The average price for locomotive diesel fuel has fallen 63.9 percent during that period. The second chart shows spot prices for Ultra-Low-Sulfur No. 2 Diesel Fuel as reported by the Energy Information Administration.



While the latest average prices for locomotive diesel fuel are available only through January 2016, data through most of February are available for related fuel types. According to the Energy Information Administration, weekly spot prices for Ultra-Low-Sulfur Diesel Fuel* have trended upward since reaching a recent low during January. Therefore, the railroads expect Q2 (April 2016) locomotive diesel fuel prices to be higher than the low number for Q1 (January). Although the expected average is lower than the forecast for the previous quarter, it is an increase from the average price actually paid (and now known) in January.

Forecast Fuel Index (1980 = 100)	148.7
Change from previous quarter forecast	-22.2%
Change from previous quarter actual	12.0%

* 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 2016

The second quarter 2016 Materials & Supplies Index rounded to the same value as the previous period. The lack of a change (actually a very small decrease before rounding) was caused by a decrease in the average of prices for items in the Metal Products category being offset by increases in the Forest Products and Miscellaneous Products categories.

2016Q2 Materials & Supplies Index = 246.9

2016Q1 Materials & Supplies Index = 246.9

Difference	0.0 basis points
	or
	0.0 %

Equipment Rents Second Quarter 2016

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

Car Hire

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

Lease Rentals

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

Equipment Rents Index Calculation

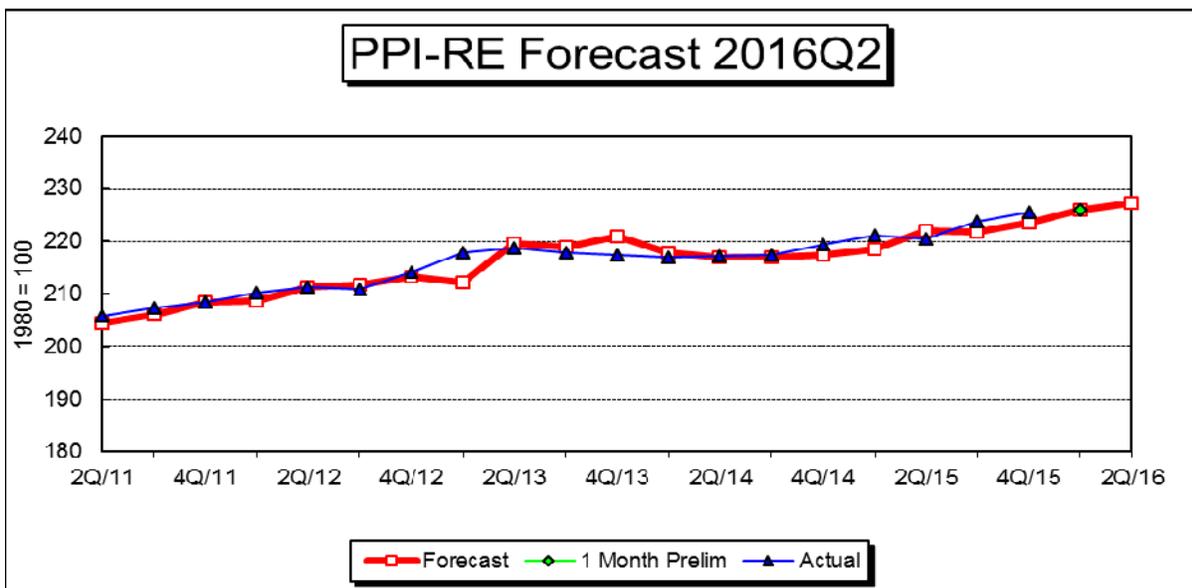
The table below calculates the Equipment Rents Index. The second quarter Car Hire portion of the Index increased 0.9 percent because of increases in rates for railroad-owned mileage rates and privately-owned cars that occurred over the last three months. A 0.2 percent decrease in the projected PPI-LF (See Appendix G) used as a proxy for Lease Rentals, combined with the 0.9 percent increase for Car Hire, caused the Equipment Rents Index to increase 0.4 percent.

	2014	2016Q1	2016Q2	Percent
	Weight			Change
Car Hire	56.5%	195.1	196.9	0.9 %
Lease Rentals	43.5%	215.5	215.1	-0.2
Weighted Average		204.0	204.8	0.4
Weighted Average (Linked)		214.3	215.1	0.4

Depreciation Second Quarter 2016

The Producer Price Index for Railroad Equipment (PPI-RE) is used to index depreciation expense. The PPI-RE is forecast using an ARIMA (Auto-Regressive Integrated Moving Average) process where a statistical package picks the model that best fits the historical data set (see next page), and that model is then used for the forecast. The historical data set contains 6 years of monthly data (a sample size of 72), where the most recent available data point is the first month of the quarter prior to the forecast quarter. For a first quarter forecast, the most recent month of data available would be for October of the prior year. For a second quarter forecast, January would normally be the most recent period available. April and July would be the most recent months available for third and fourth quarter forecasts, respectively. The output from the forecast model is shown on page 2 of this appendix on a 1982=100 basis. The figure forecast by the model, a 0.5 percent increase from the previous quarter's forecast, reflects monthly PPI-RE figures that have been increasing at a low rate over the past year.

Forecast of Depreciation Index (1982=100)	205.4
Forecast of Depreciation Index (1980=100)	227.2
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)	3.1%



Depreciation Second Quarter 2016

PPI RAILROAD EQUIPMENT

Exponential smoothing outperforms Box-Jenkins by 1.020 to 2.010 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	0.64719	204.35
Trend	0.02035	0.2748

Within-Sample Statistics

Sample size 72	Number of parameters 2
Mean 193.4	Standard deviation 6.227
R-square 0.9793	Adjusted R-square 0.979
Durbin-Watson 1.973	Ljung-Box(18)=19.49 P=0.6376
Forecast error 0.9021	BIC 0.9439
MAPE 0.003092	RMSE 0.8895
MAD 0.6015	

Actual Values for the Most Recent 6 Periods:

Date	Actual
2015-08	202.8
2015-09	202.8
2015-10	203.3
2015-11	203.9
2015-12	204.5
2016-01	204.2

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2016-02	202.770	204.620	206.470
2016-03	202.678	204.895	207.112
2016-04	202.638	205.170	207.701
2016-05	202.634	205.445	208.255
2016-06	202.655	205.719	208.784
QTR AVG	202.642	205.445	208.2467

Interest Second Quarter 2016

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

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

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

Interest Expense (Schedule 210)

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

Average Total Debt (Schedule 200)

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

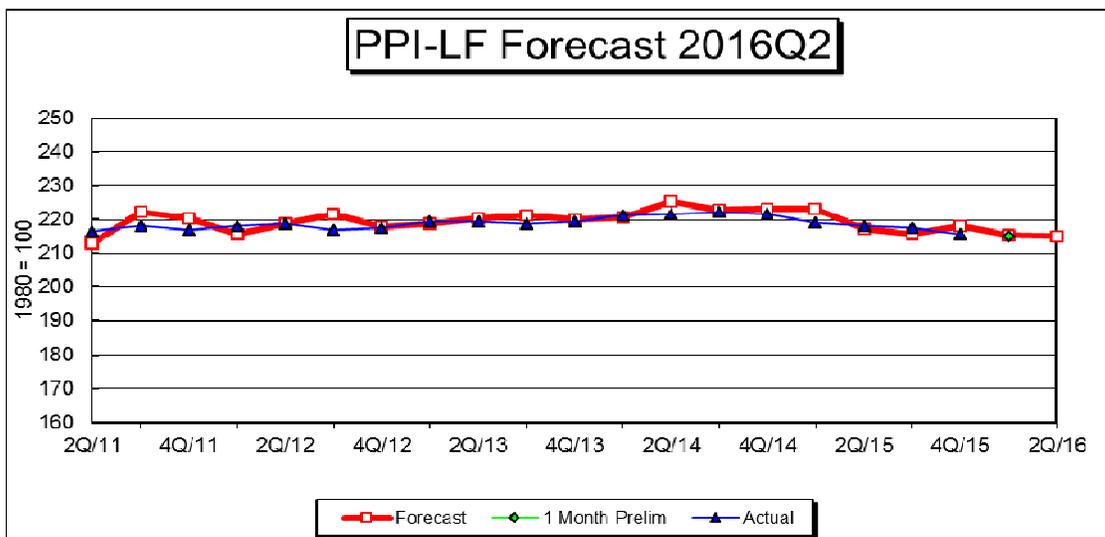
2014	Interest Rate	4.51%
1980	Interest Rate	7.85%
2016Q2	Interest Index	57.5
2016Q1	Interest Index	57.5
	Percent Change	0.0%

Other Expenses Second Quarter 2016

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

Like the PPI-RE, the PPI-LF is forecast using an ARIMA process on 6 years of monthly data (a sample size of 72) with the most recent available monthly data being the first month of the quarter prior to the forecast quarter. For a first quarter forecast, the most recent month of data available would be for October of the prior year. For a second quarter forecast, January would normally be the most recent month available. April and July would be the most recent months available for third and fourth quarter forecasts respectively. The output from the forecast model is shown on page 2 of this appendix for 1982=100. Monthly PPI-LF figures have fallen, mostly by small percentages, in 14 out of the last 17 months. The forecast for 2016Q2 is 0.2 percent below the previous quarter.

Forecast of Other Expense Index (1982=100)	191.9
Forecast of Other Expense Index (1980=100)	215.1
Change from previous quarter forecast	-0.2%
Change from actual first month of previous quarter	0.0% (-0.0465% rounded)
Change from same quarter of prior year (actual)	-1.4%



Other Expenses Second Quarter 2016

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

Box-Jenkins outperforms exponential smoothing by 1.076 to 1.578 out-of-sample Mean Absolute Deviation. I tried 78 forecasts up to a maximum horizon 12.

Series is nonstationary 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]	0.6579	0.0885	7.4325	1.0000
A[12]	0.4402	0.0974	4.5210	1.0000

Sample size 72	Number of parameters 2
Mean 193.2	Standard deviation 4.494
R-square 0.9875	Adjusted R-square 0.9873
Durbin-Watson 2.026	Ljung-Box(18)=18.23 P=0.5594
Forecast error 0.5056	BIC 0.5291
MAPE 0.002042	RMSE 0.4985
MAD 0.3941	

Actual Values for the Most Recent 6 Periods:

Date	Actual
2015-08	193.9
2015-09	193.1
2015-10	193.1
2015-11	192.4
2015-12	192.1
2016-01	192.0

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2016-02	190.889	191.873	192.857
2016-03	189.882	191.787	193.692
2016-04	188.954	191.758	194.562
2016-05	188.191	191.841	195.491
2016-06	187.562	191.999	196.435
QTR AVG	188.236	191.866	195.496

Railroad and Union Abbreviations

Second Quarter 2016

Railroads

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

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

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

Major Unions Involved with Railroads

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

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

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

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

AAR Workpapers Sent to STB for 2016 Q2 RCAF

March 3, 2016

1. Index Calculation Spreadsheet (index_calc.xlsx, 2 pages)
2. Summary of ST and PFTNW Hourly Rates (Summary.xls)
3. RCAF Taxable Wages adjustment calculation (TaxableRate.xls)
4. National Contracts spreadsheet, 2 sections (2 and 5 pages)
5. Wall Street Journal - 13 week Treasury Bill Rate from latest auction (a.k.a. 3-Mo. T-Bill)
6. 2016/Q2 RCAF Lump Sum Amortization summary, public version (1 page)
7. 2016/Q2 RCAF Back Pay Amortization summary, public version (1 page)
8. Health & Welfare worksheet (1 page)
9. Railroad Retirement spreadsheet (5 pages)
10. Unemployment Insurance worksheet (1 page)
11. 2-page SAS run for 2016 Q2 Unemployment Insurance
12. EIA's Spot Prices for Crude Oil and Petroleum Products
13. Summary of Materials & Supplies - "U.S. Summary by Composition Category" (1 page)
14. Car Hire Spreadsheet (2 pages) plus source data page
15. 5 pages of PPI-RE for Depreciation including graph, input/output, and BLS source data
16. 5 pages of PPI-LF for Other (and Lease Rentals) incl. graph, input/output, BLS source data
17. Forecast Error calc. and workpapers (10 pages: calc, index actual, fuel, 3 car hire, 2 deprec, 2 other)

RCAF All-Inclusive Index's Labor Index Based on 2014 Benchmarks

	14 Wts.	3Q/15	3Q/15 Rebench As Info Only	% Chg	4Q/15	% Chg	1Q/16	% Chg	2Q/16	% Chg	3Q/16	% Chg
Straight Time		\$33.155	\$33.927	2.3%	\$33.966	2.4%	\$34.259	0.9%	\$34.311	0.2%		--
PFTNW		\$6.966	\$7.126	2.3%	\$7.135	2.4%	\$7.143	0.1%	\$7.154	0.2%		--
Total		\$40.121	\$41.053	2.3%	\$41.101	2.4%	\$41.402	0.7%	\$41.465	0.2%	\$0.000	--
Adjustments												
Lump Sum		\$0.405	\$0.395		\$0.395		\$0.392		\$0.146			
Back Pay		\$0.094	\$0.092		\$0.131		\$0.131		\$0.158			
Other		\$0.161	\$0.157		\$0.157		\$0.157		\$0.157			
Total Wages		\$40.781	\$41.697	2.2%	\$41.784	2.5%	\$42.082	0.7%	\$41.926	-0.4%	\$0.000	--
Pre-Tax Reduction		(\$1.200)	(\$1.194)		(\$1.194)		(\$1.194)		(\$1.195)			
Taxable Wages		\$39.581	\$40.503		\$40.590		\$40.888		\$40.731		\$0.000	
H & W		\$7.612	\$6.909	-9.2%	\$6.909	-9.2%	\$8.043	16.4%	\$8.042	0.0%		--
RR Ret & Medicare		\$8.242	\$8.442	2.4%	\$8.454	2.6%	\$8.496	0.5%	\$8.474	-0.3%		--
Unemp. Insurance		\$0.204	\$0.203	-0.5%	\$0.203	-0.5%	\$0.240	18.2%	\$0.240	0.0%		--
Other		\$0.296	\$0.289	-2.4%	\$0.124	-58.1%	\$0.164	32.3%	\$0.150	-8.5%		--
Total		\$16.354	\$15.843	-3.1%	\$15.690	-4.1%	\$16.943	8.0%	\$16.906	-0.2%	\$0.000	--
Adjustments												
Total Supplements		\$16.354	\$15.843	-3.1%	\$15.690	-4.1%	\$16.943	8.0%	\$16.906	-0.2%	\$0.000	--
Total Labor		\$57.135	\$57.540	0.7%	\$57.474	0.6%	\$59.025	2.7%	\$58.832	-0.3%	\$0.000	--
Wage Rate Index	0.7210	349.0	356.8	2.2%	357.6	2.5%	360.1	0.7%	358.8	-0.4%	0.0	--
Supplements Index	0.2790	604.4	585.5	-3.1%	579.8	-4.1%	626.1	8.0%	624.8	-0.2%	0.0	--
Total Labor Index '13 Wts.		425.4										
Total Labor Index '14 Wts.		420.3	420.6	0.1%	419.6	-0.2%	434.3	3.5%	433.0	-0.3%	0.0	--
Labor Index (Linked)		404.3			403.6	-0.2%	417.7	3.5%	416.4	-0.3%	0.0	-100.0%

All Inclusive Index and RCAF using 2014 Benchmarks and Weights

	14 Wts.	3Q/15	14 Wts. 3Q/15	% Chg	4Q/15	% Chg	1Q/16	% Chg	2Q/16	% Chg	3Q/16	% Chg
Labor	0.317	404.30	404.3	0.0%	403.6	-0.2%	417.7	3.5%	416.4	-0.3%	0.0	-100.0%
Fuel	0.209	246.10	246.1	0.0%	210.8	-14.3%	191.2	-9.3%	148.7	-22.2%		--
M&S	0.052	258.90	258.9	0.0%	264.8	2.3%	246.9	-6.8%	246.9	0.0%		--
Equip. Rents	0.054	212.20	212.2	0.0%	214.7	1.2%	214.3	-0.2%	215.1	0.4%	0.0	-100.0%
Depreciation	0.126	221.80	221.8	0.0%	223.5	0.8%	226.0	1.1%	227.2	0.5%		--
Interest	0.015	70.60	70.6	0.0%	57.5	-18.6%	57.5	0.0%	57.5	0.0%	57.5	0.0%
Other	0.227	215.60	215.6	0.0%	218.2	1.2%	215.5	-1.2%	215.1	-0.2%		--
Weighted Avg.	1.000	281.90	282.5	0.2%	275.9	-2.3%	275.0	-0.3%	265.8	-3.3%	0.9	-99.7%
Linked	Basing Factor	269.70			263.4	-2.3%	262.5	-0.3%	253.7	-3.4%	0.9	-99.6%
10/1/80 basis	102.7	262.6			256.5	-2.3%	255.6	-0.4%	247.0	-3.4%	0.9	-99.6%
10/1/82	120.9	223.1			217.9	-2.3%	217.1	-0.4%	209.8	-3.4%	0.7	-99.7%
4Q/87	132.2	204.0			199.2	-2.4%	198.6	-0.3%	191.9	-3.4%	0.7	-99.6%
4Q/92	156.9	171.9			167.9	-2.3%	167.3	-0.4%	161.7	-3.3%	0.6	-99.6%
4Q/97	173.2	155.7			152.1	-2.3%	151.6	-0.3%	146.5	-3.4%	0.5	-99.7%
4Q/02	192.1	140.4			137.1	-2.4%	136.6	-0.4%	132.1	-3.3%	0.5	-99.6%
4Q/07	245.9	109.7			107.1	-2.4%	106.8	-0.3%	103.2	-3.4%	0.4	-99.6%
4Q/12 basis	297.6	90.6			88.5	-2.3%	88.2	-0.3%	85.2	-3.4%	0.3	-99.6%
Car Hire	0.565	191.60	191.6	0.0%	193.8	1.1%	195.1	0.7%	196.9	0.9%		--
Lease Rents	0.435	215.60	215.6	0.0%	218.2	1.2%	215.5	-1.2%	215.1	-0.2%	0.0	--
Weighted Avg Eq Rents		202.90	202.0	-0.4%	204.4	1.2%	204.0	-0.2%	204.8	0.4%	0.0	--
Linked Equipment Rents		212.20			214.7	1.2%	214.3	-0.2%	215.1	0.4%	0.0	-100.0%
Preliminary RCAF		0.906			0.885	-2.32%	0.882	-0.3%	0.852	-3.4%	0.003	-99.6%
Forecast Error Adj.		(0.077)			(0.023)		(0.018)		(0.012)			
RCAF Unadjusted		0.829			0.862	3.98%	0.864	0.2%	0.840	-2.8%	0.003	-99.6%
PAF		2.3422			2.3462	0.17%	2.3502	0.17%	2.3584	0.35%		--
RCAF Adjusted		0.354			0.367	3.67%	0.368	0.3%	0.356	-3.3%	#DIV/0!	--
PAF-5		2.4828			2.4890	0.25%	2.4932	0.17%	2.4974	0.17%		--
RCAF-5		0.334			0.346	3.59%	0.347	0.3%	0.336	-3.2%	#DIV/0!	--

Hourly Rate for 2016 Q2

Straight Time and Time Paid For But Not Worked

2016Q2 Straight Time Hourly Rate (from national spreadsheet) \$33.985

No change

Adjustments to 2014 base:

Adjustments added 2015 Q1

CN Railroads	3% GWI for most unions, \$0.07 COLA for others, 3.8% GWI for non-union	0.024
Misc. Indep ATDA, BLET, UTU, YMD	3% for BNSF UTU, CSX UTU, UP BLET & UTU-YDM, 3.8% for UP dispatchers	0.149
Soo Corp.	3% for D&H	0.013

Adjustments added 2015 Q2

CN Railroads	3% increase for two unions	0.003
Misc. Indep ATDA, BLET, UTU, YMD	3% increase for NS BLET	0.024
Soo Corp.	No change	0.000

Adjustments added 2015 Q3

CN Railroads	New contracts received by AAR, 3% GWI for several BLET and UTU unions	0.013
Misc. Indep ATDA, BLET, UTU, YMD	No change	0.000
Soo Corp.	No change	0.000

Adjustments added 2015 Q4

CN Railroads	August increases for BLET and UTU unions	0.004
Misc. Indep ATDA, BLET, UTU, YMD	New agreement for CSX BLET	0.035
Soo Corp.	No change	0.000

Adjustments added 2016 Q1

CN Railroads	A few COLAs and 1 GWI	0.005
Misc. Indep ATDA, BLET, UTU, YMD	Non-union GWI	0.004
Soo Corp.	Non-union GWI rounds to 0.000	0.000

Adjustments added 2016 Q2

CN Railroads	No change	0.000
Misc. Indep ATDA, BLET, UTU, YMD	Snap Back for CSX UTU CSRA	0.052
Soo Corp.	No change	0.000

Adjusted STHR Total **\$34.311**

Pay For Time Not Worked

PFTNW (from national spreadsheet)			\$7.086
Ratio Adj STHR to Nat STHR	34.311 /	33.985	=
			1.00959

Adjusted Pay For Time Not Worked **\$7.154**

Notes:

1. CN Railroads includes B&LE, CC&P, GTW, IC, and WC.
2. The Miscellaneous group consists of independent (for wages) BLET, dispatchers, UTU and yardmasters.
3. Soo Corp. includes DH and DME only, since Soo Line participates in national agreements.

RCAF Taxable Wages

(To Use for Railroad Retirement and Unemployment Insurance Payroll Tax Calculations)

In the RCAF calculation, Total Wages are the wages paid, while Taxable Wages are the wages on which to base payroll tax calculations. The difference is caused by pre-tax employee contributions to help pay Health & Welfare costs. This page calculates that wage rate difference.

The national agreements feature employee Health & Welfare cost sharing. Some of the independent agreements adopt the dollar amount contributed under the national agreement, and some have their own employee contribution rate such as the CN Management H&W Plan. This Cost Sharing is a pre-tax employee contribution to Health & Welfare insurance premiums paid by the employer. The employee contribution reduces employer Health & Welfare costs, while the Health & Welfare insurance premiums paid to the provider are unchanged. In the RCAF calculation, the reduction to the employer's Health & Welfare costs affect the Supplements portion of the Labor component of the index. The Taxable Wage Rate is used for Railroad Retirement and Unemployment Insurance calculations.

Reduction Calculation for 2Q/2016

U.S. ST Hours = 321,870,207
 Wage Statistics are for 2014

Union Group	Employees	Mo. Rate	Annual \$
National BLET (BNSF, CSX, KCS, NS, SOO, UP)	27,186	(\$198.00)	(\$64,593,936.00)
National BMW (BNSF, CSX, KCS, NS, SOO, UP)	23,639	(\$198.00)	(\$56,166,264.00)
National BRS (BNSF, CSX, KCS, NS, SOO, UP)	7,542	(\$198.00)	(\$17,919,792.00)
National IAM (BNSF, CSX, KCS, NS, SOO, UP)	6,904	(\$198.00)	(\$16,403,904.00)
National IBBM (BNSF, CSX, KCS, NS, SOO, UP)	1,291	(\$198.00)	(\$3,067,416.00)
National IBEW (BNSF, CSX, KCS, NS, SOO, UP)	5,558	(\$198.00)	(\$13,205,808.00)
National NCFO (BNSF, CSX, KCS, NS, SOO, UP)	2,473	(\$198.00)	(\$5,875,848.00)
National SMW (BNSF, CSX, KCS, NS, SOO, UP)	1,027	(\$198.00)	(\$2,440,152.00)
National TCU (BNSF, CSX, KCS, NS, SOO, UP)	5,437	(\$198.00)	(\$12,918,312.00)
National TCU-CAR (BNSF, CSX, KCS, NS, SOO, UP)	9,214	(\$198.00)	(\$21,892,464.00)
National UTU (BNSF, CSX, KCS, NS, SOO, UP)	40,720	(\$198.00)	(\$96,750,720.00)
Yardmasters (BNSF, CSX, KCS, NS, SOO, UP)	1,886	(\$198.00)	(\$4,481,136.00)
National ATDA (wt. avg. BNSF, CSX, KCS, NS, SOO)	1,859	(\$198.00)	(\$4,416,984.00)
Independent CNGT (wt avg all union categories)	6,492	(\$195.85)	(\$15,257,498.40)
Independent SLC (wt avg all DH & DME union categories)	906	(\$214.95)	(\$2,336,936.40)
Total Union	142,134		(\$337,727,170.80)
All Other @ \$3,909,740.58 total per month			(\$46,916,886.96)
Total			(\$384,644,057.76)

Reduction in Wage Rate Per ST Hour	-\$1.19502846
Deduct this amount from the Wage Rate	-\$1.195

National Contracts U.S.

Straight Time Hourly Rate															Check
Weight	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Sum
2014 Avg.	0.23681	0.03447	0.17707	0.00583	0.04733	0.14057	0.05554	0.01427	0.04033	0.00742	0.0328	0.01359	0.00852	0.18545	1.00000
12/31/14	27.076	28.014	31.170	28.833	29.721	26.731	28.713	23.811	29.150	27.023	29.393	40.721	48.991	49.106	448.455
1/1/15	27.487	28.533	31.432	29.371	30.266	27.226	29.247	24.254	29.693	27.526	29.939	41.282	49.789	49.106	455.153
4/1/15	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	50.972	
7/1/15	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	50.972	
10/1/15	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	50.972	
1/1/16	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	52.501	
4/1/16	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	52.501	
7/1/16	27.894	29.263	31.452	30.239	31.116	27.972	30.063	24.960	30.543	28.291	30.792	42.045	51.100	52.501	

Weighted Straight Time Hourly Rate															
	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Total
2014 Avg.	6.412	0.966	5.519	0.168	1.407	3.758	1.595	0.340	1.176	0.201	0.964	0.553	0.418	9.107	32.581
12/31/14	6.509	0.983	5.566	0.171	1.433	3.827	1.624	0.346	1.198	0.204	0.982	0.561	0.424	9.107	32.936
1/1/15	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.453	33.701
4/1/15	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.453	33.701
7/1/15	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.453	33.701
10/1/15	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.453	33.701
1/1/16	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.736	33.985
4/1/16	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.736	33.985
7/1/16	6.605	1.009	5.569	0.176	1.473	3.932	1.670	0.356	1.232	0.210	1.010	0.571	0.435	9.736	33.985

Note: The 2014 Average and 12/31/14 Straight Time Hourly Rates are the industry rates, and include all Class I railroad employees. The rates for 1/1/15 through 7/1/16 are based on the industry year-end rates updated by NATIONAL UNION wage increases using contract information. These national increases are diluted using "percent national" ratios to account for non-national union contracts. The impacts of non-national (or independent contract) increases after 2014 are not shown on this page and are handled separately.

National Contracts U.S.

	Pay For Time Not Worked Hourly Rate														Check
	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Sum
Weight	0.23681	0.03447	0.17707	0.00583	0.04733	0.14057	0.05554	0.01427	0.04033	0.00742	0.0328	0.01359	0.00852	0.18545	1.00000
2014 Avg.	11.128	4.284	11.332	4.029	6.780	4.994	4.247	3.061	4.514	3.614	4.708	6.315	9.736	1.256	79.998
12/31/14	11.297	4.364	11.427	4.104	6.904	5.087	4.326	3.118	4.598	3.681	4.796	6.402	9.895	1.256	
1/1/15	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.303	
4/1/15	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.303	
7/1/15	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.303	
10/1/15	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.303	
1/1/16	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.342	
4/1/16	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.342	
7/1/16	11.464	4.475	11.434	4.225	7.098	5.226	4.447	3.209	4.729	3.784	4.932	6.520	10.155	1.342	

	Pay For Time Not Worked Hourly Rate														Total
	UTU	TCU	BLET	SMWIA	BRS	BMWE	TCU-CAR	NCFO	IAM	IBBM	IBEW	ATDA	YDMSTR	OTHER	Total
2014 Avg.	2.635	0.148	2.006	0.023	0.321	0.702	0.236	0.044	0.182	0.027	0.154	0.086	0.083	0.233	6.880
12/31/14	2.675	0.150	2.023	0.024	0.327	0.715	0.240	0.044	0.185	0.027	0.157	0.087	0.084	0.233	6.974
1/1/15	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.242	7.079
4/1/15	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.242	7.079
7/1/15	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.242	7.079
10/1/15	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.242	7.079
1/1/16	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.249	7.086
4/1/16	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.249	7.086
7/1/16	2.715	0.154	2.025	0.025	0.336	0.735	0.247	0.046	0.191	0.028	0.162	0.089	0.087	0.249	7.086

U.S. National Contract

UTU

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				27.07593	11.12788
12/31/14 Industry Rate				27.48714	11.29688
1/1/15	3.00%		49.292%	27.89361	11.46393
4/1/15			49.292%	27.89361	11.46393
7/1/15			49.292%	27.89361	11.46393
10/1/15			49.292%	27.89361	11.46393
1/1/16			49.292%	27.89361	11.46393
4/1/16			49.292%	27.89361	11.46393
7/1/16			49.292%	27.89361	11.46393

TCU

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				28.01414	4.28434
12/31/14 Industry Rate				28.53310	4.36371
1/1/15	3.00%		85.316%	29.26340	4.47540
4/1/15			85.316%	29.26340	4.47540
7/1/15			85.316%	29.26340	4.47540
10/1/15			85.316%	29.26340	4.47540
1/1/16			85.316%	29.26340	4.47540
4/1/16			85.316%	29.26340	4.47540
7/1/16			85.316%	29.26340	4.47540

BLET

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				31.17032	11.33150
12/31/14 Industry Rate				31.43205	11.42665
1/1/15	3.00%		2.095%	31.45181	11.43383
4/1/15			2.095%	31.45181	11.43383
7/1/15			2.095%	31.45181	11.43383
10/1/15			2.095%	31.45181	11.43383
1/1/16			2.095%	31.45181	11.43383
4/1/16			2.095%	31.45181	11.43383
7/1/16			2.095%	31.45181	11.43383

U.S. National Contract

SMWIA

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				28.83332	4.02890
12/31/14 Industry Rate				29.37094	4.10402
1/1/15	3.00%		98.534%	30.23915	4.22534
4/1/15			98.534%	30.23915	4.22534
7/1/15			98.534%	30.23915	4.22534
10/1/15			98.534%	30.23915	4.22534
1/1/16			98.534%	30.23915	4.22534
4/1/16			98.534%	30.23915	4.22534
7/1/16			98.534%	30.23915	4.22534

BRS

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				29.72109	6.77994
12/31/14 Industry Rate				30.26645	6.90435
1/1/15	3.00%		93.556%	31.11593	7.09813
4/1/15			93.556%	31.11593	7.09813
7/1/15			93.556%	31.11593	7.09813
10/1/15			93.556%	31.11593	7.09813
1/1/16			93.556%	31.11593	7.09813
4/1/16			93.556%	31.11593	7.09813
7/1/16			93.556%	31.11593	7.09813

BMWE

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				26.73104	4.99413
12/31/14 Industry Rate				27.22593	5.08659
1/1/15	3.00%		91.327%	27.97187	5.22596
4/1/15			91.327%	27.97187	5.22596
7/1/15			91.327%	27.97187	5.22596
10/1/15			91.327%	27.97187	5.22596
1/1/16			91.327%	27.97187	5.22596
4/1/16			91.327%	27.97187	5.22596
7/1/16			91.327%	27.97187	5.22596

U.S. National Contract

TCU-Carmen

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				28.71310	4.24717
12/31/14 Industry Rate				29.24725	4.32618
1/1/15	3.00%		92.931%	30.06264	4.44679
4/1/15			92.931%	30.06264	4.44679
7/1/15			92.931%	30.06264	4.44679
10/1/15			92.931%	30.06264	4.44679
1/1/16			92.931%	30.06264	4.44679
4/1/16			92.931%	30.06264	4.44679
7/1/16			92.931%	30.06264	4.44679

NCFO

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				23.81108	3.06098
12/31/14 Industry Rate				24.25443	3.11797
1/1/15	3.00%		96.925%	24.95969	3.20864
4/1/15			96.925%	24.95969	3.20864
7/1/15			96.925%	24.95969	3.20864
10/1/15			96.925%	24.95969	3.20864
1/1/16			96.925%	24.95969	3.20864
4/1/16			96.925%	24.95969	3.20864
7/1/16			96.925%	24.95969	3.20864

IAM

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				29.15022	4.51371
12/31/14 Industry Rate				29.69256	4.59769
1/1/15	3.00%		95.418%	30.54253	4.72930
4/1/15			95.418%	30.54253	4.72930
7/1/15			95.418%	30.54253	4.72930
10/1/15			95.418%	30.54253	4.72930
1/1/16			95.418%	30.54253	4.72930
4/1/16			95.418%	30.54253	4.72930
7/1/16			95.418%	30.54253	4.72930

U.S. National Contract

IBBM

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				27.02298	3.61399
12/31/14 Industry Rate				27.52636	3.68131
1/1/15	3.00%		92.539%	28.29054	3.78351
4/1/15			92.539%	28.29054	3.78351
7/1/15			92.539%	28.29054	3.78351
10/1/15			92.539%	28.29054	3.78351
1/1/16			92.539%	28.29054	3.78351
4/1/16			92.539%	28.29054	3.78351
7/1/16			92.539%	28.29054	3.78351

IBEW

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				29.39265	4.70811
12/31/14 Industry Rate				29.93930	4.79567
1/1/15	3.00%		94.946%	30.79208	4.93227
4/1/15			94.946%	30.79208	4.93227
7/1/15			94.946%	30.79208	4.93227
10/1/15			94.946%	30.79208	4.93227
1/1/16			94.946%	30.79208	4.93227
4/1/16			94.946%	30.79208	4.93227
7/1/16			94.946%	30.79208	4.93227

ATDA

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				40.72110	6.31496
12/31/14 Industry Rate				41.28186	6.40192
1/1/15	3.00%		62.269%	42.04540	6.52033
4/1/15			62.269%	42.04540	6.52033
7/1/15			62.269%	42.04540	6.52033
10/1/15			62.269%	42.04540	6.52033
1/1/16			62.269%	42.04540	6.52033
4/1/16			62.269%	42.04540	6.52033
7/1/16			62.269%	42.04540	6.52033

A portion of one railroad's dispatchers "snapped back" to national effective 1/1/15. The number shown herein accounts for the snap back plus the 3% GWI.

YDMSTRS

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				48.99137	9.73625
12/31/14 Industry Rate				49.78941	9.89485
1/1/15	3.00%		87.742%	51.09999	10.15531
4/1/15			87.742%	51.09999	10.15531
7/1/15			87.742%	51.09999	10.15531
10/1/15			87.742%	51.09999	10.15531
1/1/16			87.742%	51.09999	10.15531
4/1/16			87.742%	51.09999	10.15531
7/1/16			87.742%	51.09999	10.15531

OTHER

	Percentage Increase	Cents Increase	Applicable	ST HR	PFTNW HR
2014 Industry Avg.				49.10618	1.25566
12/31/14 Industry Rate				49.10618	1.25566
1/1/15	3.80%		100.000%	50.97222	1.30337
4/1/15			100.000%	50.97222	1.30337
7/1/15			100.000%	50.97222	1.30337
10/1/15			100.000%	50.97222	1.30337
1/1/16	3.00%		100.000%	52.50138	1.34248
4/1/16			100.000%	52.50138	1.34248
7/1/16			100.000%	52.50138	1.34248

Check Sums

	Increase	Applicable	ST HR	PFTNW HR
2014 AVG			448.45451	79.99754
12/31/14			455.15294	
		1142.891%		
		ok matches	ok matches	ok matches
			ok matches	

Should match check sum on National Increase Applicability for U.S. Total page.

All three should match check sums on U.S. Benchmark page.

0.320%

CREDIT MARKETS

Last Year ago
 Trailing P/E ratio *20.55 23.39
 P/E estimate * 17.01 18.74
 Dividend yield 1.27 1.27
 All-time high: 5218.86, 07/20/15



Country/currency	Mon	YTD	chg
	in US\$	per US\$	(%)
Denmark kroner	.02797	35.750	-0.8
Vietnam dong	.00004464	22400	1.1
Europe			
Czech Rep. koruna	.04075	24.538	-1.4
Denmark kroner	.1478	6.7657	-1.6
Euro area euro	1.1030	9.067	-1.5
Hungary forint	.003591	278.48	-4.1
Iceland krona	.007724	129.47	-0.5
Norway krona	.1162	8.6053	-2.7
Poland zloty	.2530	3.9525	0.7
Russia ruble	.01331	75.151	4.5
Sweden krona	.1177	8.4988	0.6
Switzerland franc	1.0004	.9996	-0.2
Turkey lira	.3405	2.9367	0.7
Ukraine hryvnia	.0370	27.0015	12.5
U.K. pound	1.4150	.7067	4.1
Middle East/Africa			
Algeria dinar	2.6522	.3771	unch
Egypt pound	.1277	7.8312	unch
Israel shekel	.2559	3.9079	0.4
Jordan dinar	3.3802	.2958	-2.5
Kenya shilling	2.5976	.3850	unch
Lebanon dollar	.2746	3.642	unch
Saudi Arabia riyal	.2666	3.7503	-0.1
South Africa rand	.0658	15.1932	-1.8

Close	Net Chg	% Chg	YTD	% Chg
US Dollar Index	89.28	0.24	0.27	-0.99

	Open	High	Low	Settle	Chg	Open Interest
Crude Oil, Light Sweet (NYM) -1,000 bbls; \$ per bbl						
March	29.72	32.05	29.48	31.48	1.84	18,966
April	31.96	33.84	31.61	33.39	1.64	497,479
May	33.54	35.37	33.27	35.04	1.65	245,320
June	34.80	36.45	34.45	36.18	1.59	186,882
Dec	38.57	40.11	38.40	39.92	1.40	186,872
Dec17	42.62	43.84	42.35	43.61	1.15	92,577
NY Harbor ULSD (NYM) -42,000 gal.; \$ per gal						
March	1.0316	1.0759	1.0246	1.0551	.0296	42,046
April	1.0462	1.0911	1.0388	1.0718	.0309	82,089
Gasoline-NY RBOB (NYM) -42,000 gal.; \$ per gal						
March	.9680	1.0250	.9590	1.0006	.0412	33,967
April	1.2093	1.2711	1.2048	1.2520	.0451	102,799
Natural Gas (NYM) -10,000 MMBtu; \$ per MMBtu						
March	1.784	1.844	1.767	1.821	.017	53,095
April	1.854	1.893	1.828	1.862	-.005	270,311
May	1.927	1.963	1.907	1.934	-.011	185,029
July	2.077	2.104	2.054	2.081	-.013	70,284
Sept	2.124	2.160	2.117	2.138	-.016	62,250
Oct	2.168	2.192	2.148	2.168	-.017	82,091

Agriculture Futures						
Corn (CBT) -5,000 bu.; cents per bu						
March	366.50	369.25	366.25	367.50	2.00	234,630
May	370.00	373.50	370.00	372.25	3.00	509,238
Oats (CBT) -5,000 bu.; cents per bu						
March	194.00	195.75	187.25	187.75	-4.25	2,770
May	196.00	199.50	195.00	195.00	-1.00	6,067
Soybeans (CBT) -5,000 bu.; cents per bu						
March	881.75	887.50	880.25	881.00	2.75	140,048
May	884.00	890.00	882.50	884.25	3.50	278,862
Soybean Meal (CBT) -100 tons; \$ per ton						
March	265.80	268.40	264.50	264.90	.40	70,065
May	267.30	269.70	265.70	266.10	.10	163,184
Soybean Oil (CBT) -60,000 lbs.; cents per lb						
March	31.45	31.67	31.30	31.49	.10	55,127
May	31.67	31.91	31.54	31.74	.11	169,475
Rough Rice (CBT) -2,000 cwt.; \$ per cwt						

Interest Rate Futures

	Open	High	Low	Settle	Chg	Open Interest
Treasury Bonds (CBT) -\$100,000; pts 32nds of 100%						
March	166-170	166-220	165-270	166-060	-13.0	534,542
June	165-070	165-090	164-170	164-270	-13.0	18,493
Treasury Notes (CBT) -\$100,000; pts 32nds of 100%						
March	130-275	130-300	130-180	130-250	-4.0	2,761,579
June	130-160	130-175	130-055	130-130	-3.5	314,591
5 Yr. Treasury Notes (CBT) -\$100,000; pts 32nds of 100%						
March	121-035	121-050	120-287	121-012	-3.2	2,406,913
June	121-005	121-005	120-245	120-297	-3.0	275,580
2 Yr. Treasury Notes (CBT) -\$200,000; pts 32nds of 100%						
March	109-117	109-117	109-090	109-107	-1.0	1,026,899
June	109-120	109-122	109-087	109-112	-1.0	178,847
30 Day Federal Funds (CBT) -\$5,000,000; 100 - daily avg.						
Feb	99.623	99.625	99.623	99.620	...	105,398
May	99.595	99.595	99.580	99.585	-.015	138,086
10 Yr. Del. Int. Rate Swaps (CBT) -\$100,000; pts 32nds of 100%						
March	107.984	108.250	107.984	108.188	-.016	30,376
1 Month Libor (CME) -\$3,000,000; pts of 100%						
March	99.5400	-.0050	377
Eurodollar (CME) -\$1,000,000; pts of 100%						
March	99.3525	99.3600	99.3525	99.3550	-.0025	991,493
June	99.3000	99.3050	99.2800	99.2950	-.0050	1,291,300
Sept	99.2600	99.2600	99.2300	99.2500	-.0050	1,155,010
Dec	99.2100	99.2100	99.1750	99.2000	-.0050	1,267,860
Currency Futures						
Japanese Yen (CME) -\$12,500,000; \$ per 100¥						
March	.8883	.8899	.8824	.8867	-.0023	254,008
June	.8913	.8921	.8851	.8894	-.0023	2,011
Canadian Dollar (CME) -CAD 100,000; \$ per CAD						
March	.7257	.7320	.7251	.7295	.0033	149,770
June	.7256	.7321	.7254	.7296	.0033	4,765
British Pound (CME) -£62,500; \$ per £						
March	1.4294	1.4305	1.4059	1.4153	-.0208	251,591

Money Rates

Key annual interest rates paid to borrow or lend money in U.S. and international markets. Rates below are a guide to general levels but don't always represent actual transactions.

Inflation		U.S. consumer price index				Secondary market			
Jan. index level	Chg From (%) Dec '15 Jan '15	Latest	Week ago	-52-Week- High	-52-Week- Low	Latest	Week ago	-52-Week- High	-52-Week- Low
13 weeks	0.320	0.315	0.350	0.000	Libor				
26 weeks	0.455	0.420	0.585	0.065	One month	0.43350	0.43050	0.43350	0.17100

U.S. consumer price index			
All items	236.916	0.17	1.4
Core	244.528	0.31	2.2

International rates			
Latest	Week ago	-52-Week- High	-52-Week- Low

Prime rates			
U.S.	3.50	3.50	3.25
Canada	2.70	2.70	2.85
Japan	1.475	1.475	1.475

Policy Rates			
Euro zone	0.05	0.05	0.05
Switzerland	0.50	0.50	0.50
Britain	0.50	0.50	0.50
Australia	2.00	2.00	2.25

Overnight repurchase			
U.S.	0.45	0.46	0.51

U.S. government rates			
Discount	1.00	1.00	0.75

Federal funds			
Effective rate	0.3900	0.3900	0.4000
High	0.5625	0.5625	0.5900
Low	0.3000	0.3000	0.3500
Bid	0.3800	0.3600	0.5500
Offer	0.5000	0.3800	0.5600

Treasury bill auction

Secondary market

Fannie Mae			
30-year mortgage yields			
30 days	3.114	3.022	3.750
60 days	3.150	3.068	3.788

Other short-term rates

Call money			
Latest	Week ago	-52-Week- High	-52-Week- Low
2.25	2.25	2.25	2.00

Commercial paper			
30 to 270 days	n.q.

Commercial paper (AA financial)			
90 days	0.51	0.53	0.64

Euro commercial paper			
30 day	n.q.	n.q.	-0.02
Two month	n.q.	n.q.	-0.01
Three month	n.q.	n.q.	0.01
Four month	n.q.	n.q.	0.02
Five month	n.q.	n.q.	0.03
Six month	n.q.	n.q.	0.04

Notes on data:

U.S. prime rate is effective December 17, 2015. Discount rate is effective December 17, 2015. U.S. prime rate is the base rate on corporate loans posted by at least 70% of the 10 largest U.S. banks. Other prime rates aren't directly comparable; lending practices vary widely by location. DTCC GCF Repo Index is Depository Trust & Clearing Corp.'s weighted average for overnight trades in applicable CUSIPs. Value traded is in billions of U.S. dollars. Futures on the DTCC GCF Repo Index are traded on NYSE Life US.

Sources: Federal Reserve; Bureau of Labor Statistics; DTCC; SIX Financial Information.

February 22, 2016

Libor			
One month	0.43350	0.43050	0.43350
Three month	0.62460	0.61820	0.62460
Six month	0.88155	0.85785	0.88155
One year	1.15850	1.11560	1.17800

Euro Libor			
One month	-0.262	-0.249	-0.004
Three month	-0.216	-0.202	0.026
Six month	-0.129	-0.123	0.089
One year	-0.018	-0.017	0.218

Euro interbank offered rate (Euribor)			
One month	-0.258	-0.241	0.001
Three month	-0.199	-0.183	0.045
Six month	-0.126	-0.116	0.119
One year	-0.018	-0.008	0.246

DTCC GCF Repo Index			
Treasury	0.426	116.994	0.639
MBS	0.448	113.400	0.705

DTCC GCF Repo Index Futures			
Treasury Feb	99.520	0.005	5976
Treasury Mar	99.470	unch.	5341
Treasury Apr	99.470	0.005	1820

**RCAF Lump Sum Amortization
2016/Q2**

	Quarter of Payment	Quarter Amortization Began	Amount	Annual Per ST Hour	1 Quarter Per ST Hour	U.S. ST Hours	
CSX - BLET 2016	2016Q1	2016Q2				321,870,207	2014
NS - BLET second bonu:	2016Q1	2016Q2				321,870,207	2014
Total			\$47,033,309	0.14613			

Should be slightly less than amortized amount.

Fell out

NS - BLET new contract	2015Q1	2015Q2				321,870,207	2014
CSX - UTU-CSRA 2015	2015Q1	2015Q2				321,870,207	2014
CSX - BLET 2015	2015Q1	2015Q2				321,870,207	2014
CSX - ATDA-East 2015	2015Q1	2015Q2				321,870,207	2014
BLE - TCU	2015Q1	2015Q2				321,870,207	2014
NS - BLET 2015	2015Q1	2015Q2				321,870,207	2014

Interest Rate

2015/Q1	0.020
2015/Q2	0.020
2015/Q3	0.015
2015/Q4	0.050
2016/Q1	0.140
2016/Q2	0.320
2016/Q3	
2016/Q4	
2017/Q1	
2017/Q2	
2017/Q3	
2017/Q4	

Lump Sum Adjustment for 2016/Q2	→ 0.146417 or 0.146
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¹ B&LE BMW, B&LE BRS, GTW BMW, WC BMW, IC&CCP BMW

**RCAF Back Pay Amortization
2016/Q2**

	Quarter of Payment	Quarter Amortization Began	Amount	Annual Per ST Hour	1 Quarter Per ST Hr.	U.S. ST Hours
GTW - UTU	2015Q2	2015Q3				321,870,207 2014
DME - 2 unions ²	2014Q4	2015Q3				321,870,207 2014
CSX - BLET	2015Q1	2015Q4				321,870,207 2014
CSX - UTU CSRA	2015Q1	2016Q2				321,870,207 2014
DME - all unions 2016	2016Q1	2016Q2				321,870,207 2014
Total						\$50,859,788

Should be slightly less than amortized amount.

Fell out	none.					
DME - all unions 2015	2015Q1	2015Q2				321,870,207 2014
NS - BLET	2015Q1	2015Q2				321,870,207 2014
CSX - ATDA East	2015Q1	2015Q2				321,870,207 2014
CNGT1	various	2015Q2				321,870,207 2014

Interest Rate

2015/Q1	0.020
2015/Q2	0.020
2015/Q3	0.015
2015/Q4	0.050
2016/Q1	0.140
2016/Q2	0.320
2016/Q3	
2016/Q4	
2017/Q1	
2017/Q2	
2017/Q3	
2017/Q4	

Back Pay Adjustment for 2016/Q2	→ 0.15829 or 0.158
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¹ B&LE's TCU, IC&CCP's UTU, & WC's BLET

² SMART-TD covering Engineers and Trainmen on the DM&E North...AAR labels these as DM&E BLET and DM&E UTU

Health and Welfare

	Employees		2016	Total 2014 Avg.	Total 2016
	Receiving				
	Pay 2014	Monthly Contribution 2014 Avg.			
1. All Employees					
a. Group health	170,643	\$1,285.74	\$1,481.05	\$219,402,530.82	\$252,730,815.15
b. Group dental	170,643	53.00	56.97	9,044,079.00	9,721,531.71
c. Early retirement major medical	170,643	127.92	134.70	21,828,652.56	22,985,612.10
d. Group vision	170,643	8.39	8.41	1,431,694.77	1,435,107.63
2. Supplemental Sickness					
a. Signalmen	7,975	30.74	29.48	245,151.50	235,103.00
b. Shopcrafts	25,097	48.28	49.11	1,211,683.16	1,232,513.67
c. MOW	25,249	32.87	32.87	829,934.63	829,934.63
d. Yardmasters	2,036	34.96	34.22	71,178.56	69,671.92
3. Short-Term Disability					
a. Engineers (CSX, KCS, SOO, UP)	14,094	40.00	40.00	563,760.00	563,760.00
4. Monthly Total Premiums				254,628,665.00	289,804,049.81
5. Monthly Employee Contributions To H&W					
a. National BLET (BNSF, CSX, KCS, NS, SOO, UP)	27,186	(\$198.00)	(\$198.00)	(\$5,382,828.00)	(5,382,828.00)
b. National BMW (BNSF, CSX, KCS, NS, SOO, UP)	23,639	(\$198.00)	(\$198.00)	(\$4,680,522.00)	(4,680,522.00)
c. National BRS (BNSF, CSX, KCS, NS, SOO, UP)	7,542	(\$198.00)	(\$198.00)	(\$1,493,316.00)	(1,493,316.00)
d. National IAM (BNSF, CSX, KCS, NS, SOO, UP)	6,904	(\$198.00)	(\$198.00)	(\$1,366,992.00)	(1,366,992.00)
e. National IBBM (BNSF, CSX, KCS, NS, SOO, UP)	1,291	(\$198.00)	(\$198.00)	(\$255,618.00)	(255,618.00)
f. National IBEW (BNSF, CSX, KCS, NS, SOO, UP)	5,558	(\$198.00)	(\$198.00)	(\$1,100,484.00)	(1,100,484.00)
g. National NCFO (BNSF, CSX, KCS, NS, SOO, UP)	2,473	(\$198.00)	(\$198.00)	(\$489,654.00)	(489,654.00)
h. National SMW (BNSF, CSX, KCS, NS, SOO, UP)	1,027	(\$198.00)	(\$198.00)	(\$203,346.00)	(203,346.00)
i. National TCU (BNSF, CSX, KCS, NS, SOO, UP)	5,437	(\$198.00)	(\$198.00)	(\$1,076,526.00)	(1,076,526.00)
j. National TCU-CAR (BNSF, CSX, KCS, NS, SOO, UP)	9,214	(\$198.00)	(\$198.00)	(\$1,824,372.00)	(1,824,372.00)
k. National UTU (BNSF, CSX, KCS, NS, SOO, UP)	40,720	(\$198.00)	(\$198.00)	(\$8,062,560.00)	(8,062,560.00)
l. Yardmasters (BNSF, CSX, KCS, NS, SOO, UP)	1,886	(\$198.00)	(\$198.00)	(\$373,428.00)	(373,428.00)
m. National ATDA (wt. avg. BNSF, CSX, KCS, NS, SOO)	1,859	(\$198.00)	(\$198.00)	(\$368,082.00)	(368,082.00)
n. Independent CNGT (wt avg all union categories)	6,492	(\$190.95)	(\$195.85)	(\$1,239,647.40)	(1,271,458.20)
o. Independent SLC (wt avg all DH & DME union categories)	906	(\$176.22)	(\$214.95)	(\$159,655.32)	(194,744.70)
p.					
Total Major Union	142,134			(\$28,077,030.72)	(\$28,143,930.90)
All Other Employee Contributions*				(\$3,909,740.58)	(\$3,909,740.58)
6. Net Employer Monthly Payments				\$222,641,893.70	\$257,750,378.33
7. Ratio Projected Year to Base Year, Based on Net Monthly Payments					1.15769
8. H&W hourly rate for base year 2014				\$6.947	
9. H&W hourly rate for projected quarter					\$8.042

* Non-union employee contributions net of opt-outs. The \$28,077,030.72 in major union contributions, plus \$3,909,740.58 in all other employee contributions, totals to the 12-month average of the total employee contributions reported to the AAR in its WF survey.

Railroad Retirement and Medicare for RCAF

Inputs:

RRB Earnings Distribution Year	2013	Tier I Maximum Taxable Earnings for 2016	118,500
Wage Statistics Year	2014	Tier II Maximum Taxable Earnings for 2016	88,200
Current Year	2016	Medicare Maximum Taxable Earnings for 2016	no limit
Employees Receiving Pay*	170,643	Tier I Employer Tax Rate for 2016	6.20%
* from 2014 wage statistics		Tier II Employer Tax Rate for 2016	13.10%
		Medicare Employer Tax Rate for 2016	1.45%

USA RCAF	Wage Rate	Update Factor	Railroad Retirement Tax	Hourly Rate	
2013	\$36.760				
2014	\$38.866	1.05729	\$656,729,112	\$7.982	hourly rate from SUPPL2014.xlsx
1Q/2016	\$40.888	1.11230	\$699,014,659	\$8.496	Rate = Taxable Rate
2Q/2016	\$40.731	1.10803	\$697,224,322	\$8.474	
3Q/2016		0.00000	--	\$0.000	
4Q/2016		0.00000	--	\$0.000	

Railroad Retirement & Medicare, U.S.

From 2013 Earnings Distribution			1Q/2016 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info									
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
									Tier I	Tier II	Medicare	
\$0 - 41,699	\$31,800	3.629	6,193	\$35,371	\$8,843	\$8,843	\$8,843	\$8,843	\$54,759,937	\$54,759,937	\$54,759,937	
41,700 - 43,699	\$42,715	0.812	1,386	47,512	11,878	11,878	11,878	11,878	16,458,312	16,458,312	16,458,312	
43,700 - 45,699	\$44,553	1.098	1,874	49,556	12,389	12,389	12,389	12,389	23,212,833	23,212,833	23,212,833	
45,700 - 47,699	\$46,627	1.051	1,793	51,863	12,966	12,966	12,966	12,966	23,253,538	23,253,538	23,253,538	
47,700 - 49,699	\$48,596	1.480	2,526	54,053	13,513	13,513	13,513	13,513	34,128,020	34,128,020	34,128,020	
49,700 - 51,699	\$50,799	2.245	3,831	56,504	14,126	14,126	14,126	14,126	54,115,336	54,115,336	54,115,336	
51,700 - 53,699	\$52,706	3.104	5,297	58,625	14,656	14,656	14,656	14,656	77,630,185	77,630,185	77,630,185	
53,700 - 55,699	\$54,809	4.011	6,844	60,964	15,241	15,241	15,241	15,241	104,316,592	104,316,592	104,316,592	
55,700 - 57,699	\$56,637	4.632	7,904	62,997	15,749	15,749	15,749	15,749	124,485,178	124,485,178	124,485,178	
57,700 - 59,699	\$58,768	4.250	7,252	65,367	16,342	16,342	16,342	16,342	118,516,466	118,516,466	118,516,466	
59,700 - 61,699	\$60,663	4.155	7,090	67,475	16,869	16,869	16,869	16,869	119,603,466	119,603,466	119,603,466	
61,700 - 63,699	\$62,700	3.438	5,867	69,741	17,435	17,435	17,435	17,435	102,287,429	102,287,429	102,287,429	
63,700 - 65,699	\$64,623	3.582	6,112	71,880	17,970	17,970	17,970	17,970	109,840,259	109,840,259	109,840,259	
65,700 - 67,699	\$66,649	3.820	6,519	74,133	18,533	18,533	18,533	18,533	120,810,826	120,810,826	120,810,826	
67,700 - 69,699	\$68,748	3.343	5,705	76,468	19,117	19,117	19,117	19,117	109,054,928	109,054,928	109,054,928	
69,700 - 71,699	\$70,905	3.200	5,461	78,867	19,717	19,717	19,717	19,717	107,665,284	107,665,284	107,665,284	
71,700 - 73,699	\$72,646	2.627	4,483	80,804	20,201	20,201	20,201	20,201	90,556,709	90,556,709	90,556,709	
73,700 - 75,699	\$74,686	3.964	6,764	83,073	20,768	20,768	20,768	20,768	140,482,329	140,482,329	140,482,329	
75,700 - 77,699	\$76,740	2.913	4,971	85,358	21,339	21,339	21,339	21,339	106,074,534	106,074,534	106,074,534	
77,700 - 79,699	\$78,583	2.674	4,563	87,408	21,852	21,852	21,852	21,852	99,710,033	99,710,033	99,710,033	
79,700 - 81,699	\$80,678	3.247	5,541	89,738	22,434	22,434	22,050	22,434	124,304,332	122,174,160	124,304,332	
81,700 - 83,699	\$82,692	3.009	5,135	91,978	22,994	22,994	22,050	22,994	118,068,633	113,218,986	118,068,633	
83,700 - 85,699	\$84,718	3.104	5,297	94,231	23,558	23,558	22,050	23,558	124,780,367	116,793,530	124,780,367	
85,700 - 87,699	\$86,756	2.292	3,911	96,498	24,125	24,125	22,050	24,125	94,354,580	86,240,583	94,354,580	
87,700 - 89,699	\$88,824	2.627	4,483	98,799	24,700	24,700	22,050	24,700	110,723,359	98,845,555	110,723,359	
89,700 - 91,699	\$90,651	2.149	3,667	100,831	25,208	25,208	22,050	25,208	92,439,559	80,859,953	92,439,559	
91,700 - 93,699	\$92,600	2.388	4,075	102,999	25,750	25,750	22,050	25,750	104,928,668	89,852,754	104,928,668	
93,700 - 95,699	\$94,575	1.671	2,851	105,195	26,299	26,299	22,050	26,299	74,989,706	62,874,352	74,989,706	
95,700 - 97,699	\$96,641	2.292	3,911	107,493	26,873	26,873	22,050	26,873	105,105,364	86,240,583	105,105,364	
97,700 - 99,699	\$98,671	1.051	1,793	109,751	27,438	27,438	22,050	27,438	49,208,610	39,545,747	49,208,610	
99,700 - 101,699	\$100,588	1.576	2,689	111,884	27,971	27,971	22,050	27,971	75,223,102	59,299,808	75,223,102	
101,700 - 103,699	\$102,760	1.289	2,200	114,300	28,575	28,575	22,050	28,575	62,852,979	48,500,921	62,852,979	
103,700 - 105,699	\$104,717	1.194	2,037	116,476	29,119	29,119	22,050	29,119	59,329,457	44,926,377	59,329,457	
105,700 - 107,699	\$106,640	1.385	2,363	118,615	29,654	29,625	22,050	29,654	70,015,889	52,113,092	70,083,981	
107,700 - 109,699	\$108,933	1.003	1,712	121,166	30,291	29,625	22,050	30,291	50,704,648	37,739,662	51,845,283	
109,700 - 111,699	\$110,682	1.003	1,712	123,111	30,778	29,625	22,050	30,778	50,704,648	37,739,662	52,677,697	
111,700 - 113,699	\$112,960	0.907	1,548	125,645	31,411	29,625	22,050	31,411	45,851,561	34,127,491	48,616,179	
113,700 - 115,699	\$114,491	0.860	1,468	127,348	31,837	29,625	22,050	31,837	43,475,570	32,359,032	46,721,702	
\$115,700 - over	\$173,469	6.925	11,817	192,949	48,237	29,625	22,050	48,237	350,079,447	260,565,462	570,020,539	
TOTAL	\$79,518	100.000	170,643						Total Taxable Earnings	3,544,102,671	3,240,979,903	3,773,236,288
									Employer Tax Rate	6.20%	13.10%	1.45%
									Quarterly Payment	\$219,734,366	\$424,568,367	\$54,711,926
									Total Tier I, Tier II, and Medicare Paid this Quarter			\$699,014,659

Railroad Retirement & Medicare, U.S.

From 2013 Earnings Distribution			2Q/2016 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info									
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
									Tier I	Tier II	Medicare	
\$0 - 41,699	\$31,800	3.629 %	6,193	\$35,235	\$8,809	\$8,809	\$8,809	\$8,809	\$54,549,672	\$54,549,672	\$54,549,672	
41,700 - 43,699	\$42,715	0.812	1,386	47,329	11,832	11,832	11,832	11,832	16,395,116	16,395,116	16,395,116	
43,700 - 45,699	\$44,553	1.098	1,874	49,366	12,341	12,341	12,341	12,341	23,123,701	23,123,701	23,123,701	
45,700 - 47,699	\$46,627	1.051	1,793	51,664	12,916	12,916	12,916	12,916	23,164,250	23,164,250	23,164,250	
47,700 - 49,699	\$48,596	1.480	2,526	53,846	13,461	13,461	13,461	13,461	33,996,977	33,996,977	33,996,977	
49,700 - 51,699	\$50,799	2.245	3,831	56,287	14,072	14,072	14,072	14,072	53,907,546	53,907,546	53,907,546	
51,700 - 53,699	\$52,706	3.104	5,297	58,400	14,600	14,600	14,600	14,600	77,332,104	77,332,104	77,332,104	
53,700 - 55,699	\$54,809	4.011	6,844	60,730	15,182	15,182	15,182	15,182	103,916,042	103,916,042	103,916,042	
55,700 - 57,699	\$56,637	4.632	7,904	62,755	15,689	15,689	15,689	15,689	124,007,185	124,007,185	124,007,185	
57,700 - 59,699	\$58,768	4.250	7,252	65,116	16,279	16,279	16,279	16,279	118,061,391	118,061,391	118,061,391	
59,700 - 61,699	\$60,663	4.155	7,090	67,216	16,804	16,804	16,804	16,804	119,144,217	119,144,217	119,144,217	
61,700 - 63,699	\$62,700	3.438	5,867	69,473	17,368	17,368	17,368	17,368	101,894,671	101,894,671	101,894,671	
63,700 - 65,699	\$64,623	3.582	6,112	71,604	17,901	17,901	17,901	17,901	109,418,499	109,418,499	109,418,499	
65,700 - 67,699	\$66,649	3.820	6,519	73,849	18,462	18,462	18,462	18,462	120,346,941	120,346,941	120,346,941	
67,700 - 69,699	\$68,748	3.343	5,705	76,175	19,044	19,044	19,044	19,044	108,636,184	108,636,184	108,636,184	
69,700 - 71,699	\$70,905	3.200	5,461	78,565	19,641	19,641	19,641	19,641	107,251,876	107,251,876	107,251,876	
71,700 - 73,699	\$72,646	2.627	4,483	80,494	20,123	20,123	20,123	20,123	90,208,993	90,208,993	90,208,993	
73,700 - 75,699	\$74,686	3.964	6,764	82,754	20,688	20,688	20,688	20,688	139,942,911	139,942,911	139,942,911	
75,700 - 77,699	\$76,740	2.913	4,971	85,030	21,257	21,257	21,257	21,257	105,667,233	105,667,233	105,667,233	
77,700 - 79,699	\$78,583	2.674	4,563	87,072	21,768	21,768	21,768	21,768	99,327,170	99,327,170	99,327,170	
79,700 - 81,699	\$80,678	3.247	5,541	89,393	22,348	22,348	22,050	22,348	123,827,033	122,174,160	123,827,033	
81,700 - 83,699	\$82,692	3.009	5,135	91,625	22,906	22,906	22,050	22,906	117,615,278	113,218,986	117,615,278	
83,700 - 85,699	\$84,718	3.104	5,297	93,870	23,467	23,467	22,050	23,467	124,301,241	116,793,530	124,301,241	
85,700 - 87,699	\$86,756	2.292	3,911	96,128	24,032	24,032	22,050	24,032	93,992,281	86,240,583	93,992,281	
87,700 - 89,699	\$88,824	2.627	4,483	98,419	24,605	24,605	22,050	24,605	110,298,208	98,845,555	110,298,208	
89,700 - 91,699	\$90,651	2.149	3,667	100,444	25,111	25,111	22,050	25,111	92,084,614	80,859,953	92,084,614	
91,700 - 93,699	\$92,600	2.388	4,075	102,603	25,651	25,651	22,050	25,651	104,525,768	89,852,754	104,525,768	
93,700 - 95,699	\$94,575	1.671	2,851	104,791	26,198	26,198	22,050	26,198	74,701,764	62,874,352	74,701,764	
95,700 - 97,699	\$96,641	2.292	3,911	107,081	26,770	26,770	22,050	26,770	104,701,785	86,240,583	104,701,785	
97,700 - 99,699	\$98,671	1.051	1,793	109,330	27,332	27,332	22,050	27,332	49,019,661	39,545,747	49,019,661	
99,700 - 101,699	\$100,588	1.576	2,689	111,454	27,864	27,864	22,050	27,864	74,934,263	59,299,808	74,934,263	
101,700 - 103,699	\$102,760	1.289	2,200	113,861	28,465	28,465	22,050	28,465	62,611,639	48,500,921	62,611,639	
103,700 - 105,699	\$104,717	1.194	2,037	116,029	29,007	29,007	22,050	29,007	59,101,646	44,926,377	59,101,646	
105,700 - 107,699	\$106,640	1.385	2,363	118,160	29,540	29,540	22,050	29,540	69,882,967	52,113,092	69,814,875	
107,700 - 109,699	\$108,933	1.003	1,712	120,700	30,175	29,625	22,050	30,175	50,704,648	37,739,662	51,646,210	
109,700 - 111,699	\$110,682	1.003	1,712	122,638	30,660	29,625	22,050	30,660	50,704,648	37,739,662	52,475,428	
111,700 - 113,699	\$112,960	0.907	1,548	125,163	31,291	29,625	22,050	31,291	45,851,561	34,127,491	48,429,505	
113,700 - 115,699	\$114,491	0.860	1,468	126,859	31,715	29,625	22,050	31,715	43,475,570	32,359,032	46,542,302	
\$115,700 - over	\$173,469	6.925	11,817	192,208	48,052	29,625	22,050	48,052	<u>350,079,447</u>	<u>260,565,462</u>	<u>567,831,798</u>	
TOTAL		100.000	170,643						Total Taxable Earnings	3,532,706,700	3,234,310,390	3,758,747,976
									Employer Tax Rate	6.20%	13.10%	1.45%
									Quarterly Payment	\$219,027,815	\$423,694,661	\$54,501,846
									Total Tier I, Tier II, and Medicare Paid this Quarter			\$697,224,322

Railroad Retirement & Medicare, U.S.

From 2013 Earnings Distribution			3Q/2016 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info									
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
									Tier I	Tier II	Medicare	
\$0 - 41,699	\$31,800	3.629 %	6,193	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
41,700 - 43,699	\$42,715	0.812	1,386	0	0	0	0	0	0	0	0	0
43,700 - 45,699	\$44,553	1.098	1,874	0	0	0	0	0	0	0	0	0
45,700 - 47,699	\$46,627	1.051	1,793	0	0	0	0	0	0	0	0	0
47,700 - 49,699	\$48,596	1.480	2,526	0	0	0	0	0	0	0	0	0
49,700 - 51,699	\$50,799	2.245	3,831	0	0	0	0	0	0	0	0	0
51,700 - 53,699	\$52,706	3.104	5,297	0	0	0	0	0	0	0	0	0
53,700 - 55,699	\$54,809	4.011	6,844	0	0	0	0	0	0	0	0	0
55,700 - 57,699	\$56,637	4.632	7,904	0	0	0	0	0	0	0	0	0
57,700 - 59,699	\$58,768	4.250	7,252	0	0	0	0	0	0	0	0	0
59,700 - 61,699	\$60,663	4.155	7,090	0	0	0	0	0	0	0	0	0
61,700 - 63,699	\$62,700	3.438	5,867	0	0	0	0	0	0	0	0	0
63,700 - 65,699	\$64,623	3.582	6,112	0	0	0	0	0	0	0	0	0
65,700 - 67,699	\$66,649	3.820	6,519	0	0	0	0	0	0	0	0	0
67,700 - 69,699	\$68,748	3.343	5,705	0	0	0	0	0	0	0	0	0
69,700 - 71,699	\$70,905	3.200	5,461	0	0	0	0	0	0	0	0	0
71,700 - 73,699	\$72,646	2.627	4,483	0	0	0	0	0	0	0	0	0
73,700 - 75,699	\$74,686	3.964	6,764	0	0	0	0	0	0	0	0	0
75,700 - 77,699	\$76,740	2.913	4,971	0	0	0	0	0	0	0	0	0
77,700 - 79,699	\$78,583	2.674	4,563	0	0	0	0	0	0	0	0	0
79,700 - 81,699	\$80,678	3.247	5,541	0	0	0	683	0	0	3,783,046	0	0
81,700 - 83,699	\$82,692	3.009	5,135	0	0	0	1,801	0	0	9,245,940	0	0
83,700 - 85,699	\$84,718	3.104	5,297	0	0	0	2,925	0	0	15,494,548	0	0
85,700 - 87,699	\$86,756	2.292	3,911	0	0	0	4,057	0	0	15,865,695	0	0
87,700 - 89,699	\$88,824	2.627	4,483	0	0	0	5,204	0	0	23,330,457	0	0
89,700 - 91,699	\$90,651	2.149	3,667	0	0	0	6,219	0	0	22,804,266	0	0
91,700 - 93,699	\$92,600	2.388	4,075	0	0	0	7,300	0	0	29,748,927	0	0
93,700 - 95,699	\$94,575	1.671	2,851	0	0	0	8,397	0	0	23,942,766	0	0
95,700 - 97,699	\$96,641	2.292	3,911	0	0	0	9,544	0	0	37,325,982	0	0
97,700 - 99,699	\$98,671	1.051	1,793	0	0	0	10,670	0	0	19,136,776	0	0
99,700 - 101,699	\$100,588	1.576	2,689	0	0	0	11,734	0	0	31,557,750	0	0
101,700 - 103,699	\$102,760	1.289	2,200	0	0	0	12,940	0	0	28,462,775	0	0
103,700 - 105,699	\$104,717	1.194	2,037	0	0	0	14,026	0	0	28,578,348	0	0
105,700 - 107,699	\$106,640	1.385	2,363	0	0	0	15,094	0	0	35,672,671	0	0
107,700 - 109,699	\$108,933	1.003	1,712	0	0	1,217	16,367	0	2,082,197	28,012,169	0	0
109,700 - 111,699	\$110,682	1.003	1,712	0	0	2,187	17,337	0	3,743,830	29,673,801	0	0
111,700 - 113,699	\$112,960	0.907	1,548	0	0	3,452	18,602	0	5,342,562	28,790,702	0	0
113,700 - 115,699	\$114,491	0.860	1,468	0	0	4,302	19,452	0	6,312,863	28,545,939	0	0
\$115,700 - over	\$173,469	6.925	11,817	0	0	29,625	22,050	0	350,079,447	260,565,462	0	0
TOTAL		100.000	170,643						Total Taxable Earnings	367,560,899	700,538,021	0
									Employer Tax Rate	6.20%	13.10%	1.45%
									Quarterly Payment	\$22,788,776	\$91,770,481	\$0

Total Tier I, Tier II, and Medicare Paid this Quarter

\$114,559,256

Railroad Retirement & Medicare, U.S.

From 2013 Earnings Distribution			4Q/2016 Updated Using Earnings Distribution & Wage Statistics, plus Current Wage Rates with Current Tax Info									
Earnings Groups	Avg Ann. Earnings	% of Total Employees	Employees Recvg. Pay	Annual Earnings	Avg Qtly Earnings	Tier I Taxable	Tier II Taxable	Medicare Taxable	Total Taxable Earnings (Taxable x Employees)			
									Tier I	Tier II	Medicare	
\$0 - 41,699	\$31,800	3.629 %	6,193	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
41,700 - 43,699	\$42,715	0.812	1,386	0	0	0	0	0	0	0	0	0
43,700 - 45,699	\$44,553	1.098	1,874	0	0	0	0	0	0	0	0	0
45,700 - 47,699	\$46,627	1.051	1,793	0	0	0	0	0	0	0	0	0
47,700 - 49,699	\$48,596	1.480	2,526	0	0	0	0	0	0	0	0	0
49,700 - 51,699	\$50,799	2.245	3,831	0	0	0	0	0	0	0	0	0
51,700 - 53,699	\$52,706	3.104	5,297	0	0	0	0	0	0	0	0	0
53,700 - 55,699	\$54,809	4.011	6,844	0	0	0	0	0	0	0	0	0
55,700 - 57,699	\$56,637	4.632	7,904	0	0	0	0	0	0	0	0	0
57,700 - 59,699	\$58,768	4.250	7,252	0	0	0	0	0	0	0	0	0
59,700 - 61,699	\$60,663	4.155	7,090	0	0	0	0	0	0	0	0	0
61,700 - 63,699	\$62,700	3.438	5,867	0	0	0	0	0	0	0	0	0
63,700 - 65,699	\$64,623	3.582	6,112	0	0	0	0	0	0	0	0	0
65,700 - 67,699	\$66,649	3.820	6,519	0	0	0	0	0	0	0	0	0
67,700 - 69,699	\$68,748	3.343	5,705	0	0	0	0	0	0	0	0	0
69,700 - 71,699	\$70,905	3.200	5,461	0	0	0	0	0	0	0	0	0
71,700 - 73,699	\$72,646	2.627	4,483	0	0	0	0	0	0	0	0	0
73,700 - 75,699	\$74,686	3.964	6,764	0	0	0	0	0	0	0	0	0
75,700 - 77,699	\$76,740	2.913	4,971	0	0	0	0	0	0	0	0	0
77,700 - 79,699	\$78,583	2.674	4,563	0	0	0	0	0	0	0	0	0
79,700 - 81,699	\$80,678	3.247	5,541	0	0	0	0	0	0	0	0	0
81,700 - 83,699	\$82,692	3.009	5,135	0	0	0	0	0	0	0	0	0
83,700 - 85,699	\$84,718	3.104	5,297	0	0	0	0	0	0	0	0	0
85,700 - 87,699	\$86,756	2.292	3,911	0	0	0	0	0	0	0	0	0
87,700 - 89,699	\$88,824	2.627	4,483	0	0	0	0	0	0	0	0	0
89,700 - 91,699	\$90,651	2.149	3,667	0	0	0	0	0	0	0	0	0
91,700 - 93,699	\$92,600	2.388	4,075	0	0	0	0	0	0	0	0	0
93,700 - 95,699	\$94,575	1.671	2,851	0	0	0	0	0	0	0	0	0
95,700 - 97,699	\$96,641	2.292	3,911	0	0	0	0	0	0	0	0	0
97,700 - 99,699	\$98,671	1.051	1,793	0	0	0	0	0	0	0	0	0
99,700 - 101,699	\$100,588	1.576	2,689	0	0	0	0	0	0	0	0	0
101,700 - 103,699	\$102,760	1.289	2,200	0	0	0	0	0	0	0	0	0
103,700 - 105,699	\$104,717	1.194	2,037	0	0	0	0	0	0	0	0	0
105,700 - 107,699	\$106,640	1.385	2,363	0	0	0	0	0	0	0	0	0
107,700 - 109,699	\$108,933	1.003	1,712	0	0	0	0	0	0	0	0	0
109,700 - 111,699	\$110,682	1.003	1,712	0	0	0	0	0	0	0	0	0
111,700 - 113,699	\$112,960	0.907	1,548	0	0	0	0	0	0	0	0	0
113,700 - 115,699	\$114,491	0.860	1,468	0	0	0	0	0	0	0	0	0
\$115,700 - over	\$173,469	6.925	11,817	0	0	7,414	22,050	0	87,613,995	260,565,462	0	0
TOTAL		100.000	170,643						Total Taxable Earnings	87,613,995	260,565,462	0
									Employer Tax Rate	6.20%	13.10%	1.45%
									Quarterly Payment	\$5,432,068	\$34,134,076	\$0

Total Tier I, Tier II, and Medicare Paid this Quarter

\$39,566,143

RCAF Unemployment Insurance Tax

	<u>Unemployment Ins.</u>						
	Tax	Earnings	Hourly	RRB	Factor	Avg. Ann.	Un. Ins.
	Rate	Base	Earnings	Sample	To Update	Taxable	Hourly
				Year	RRB Sample	Earnings	Rate
			\$33.913	(2010)			
2011 Avg.	7.10%	\$15,960	\$34.752		1.024740	\$15,110.68	\$0.595
3Q/12 reb	5.00%	\$16,380	\$37.546		1.107127	\$15,534.63	\$0.431
4Q/12	5.00%	\$16,380	\$37.613		1.109103	\$15,535.53	\$0.431
1Q/13	0.67%	\$16,860	\$37.771		1.113762	\$15,978.07	\$0.059
2Q/13	0.67%	\$16,860	\$37.144		1.095273	\$15,969.12	\$0.059
3Q/13	0.67%	\$16,860	\$37.532		1.106714	\$15,974.73	\$0.059
			\$34.752	(2011)			
2012 Avg.	5.00%	\$16,380	\$36.269		1.043652	\$15,446.41	\$0.411
3Q/13 reb.	0.67%	\$16,860	\$37.587		1.081578	\$15,902.69	\$0.057
4Q/13	0.67%	\$16,860	\$37.545		1.080369	\$15,902.09	\$0.057
1Q/14	0.68%	\$17,280	\$37.908		1.090815	\$16,289.96	\$0.059
2Q/14	0.68%	\$17,280	\$38.121		1.096944	\$16,293.07	\$0.059
3Q/14	0.68%	\$17,280	\$39.016		1.122698	\$16,305.78	\$0.059
			\$36.269	(2012)			
2013 Avg.	0.67%	\$16,860	\$36.760		1.013538	\$15,578.13	\$0.057
3Q/14 reb.	0.68%	\$17,280	\$38.308		1.056219	\$15,976.08	\$0.059
4Q/14	0.68%	\$17,280	\$38.319		1.056522	\$15,976.25	\$0.059
1Q/15	2.31%	\$17,460	\$39.385		1.085914	\$16,152.67	\$0.204
2Q/15	2.31%	\$17,460	\$39.595		1.091704	\$16,155.78	\$0.204
3Q/15	2.31%	\$17,460	\$39.581		1.091318	\$16,155.57	\$0.204
			\$36.760	(2013)			
2014 Avg.	0.68%	\$17,280	\$38.866		1.057291	\$16,395.26	\$0.059
3Q/15 reb.	2.31%	\$17,460	\$40.503		1.101823	\$16,583.82	\$0.203
4Q/15	2.31%	\$17,460	\$40.590		1.104189	\$16,585.04	\$0.203
1Q/16	2.73%	\$17,460	\$40.888		1.112296	\$16,589.15	\$0.240
2Q/16	2.73%	\$17,460	\$40.731		1.108025	\$16,586.99	\$0.240
3Q/16					0.000000		\$0.000

Note: Average Annual Taxable Earnings is calculated from the RRB 1% sample data, by multiplying the average annual earnings in the file times the "Factor", and limiting the amount to the earnings base. Thus, the annual hourly earnings used for the calculation of the Factor is for the RRB sample year, and the Factor brings the earnings in the RRB 1% sample file to the current quarter's level.

TOTAL GROSS EARNINGS AND AVERAGE GROSS EARNINGS-2013 RRB File

The MEANS Procedure

Variable	N	Sum	Mean
ANUAL_US	2682	43972083.05	16395.26
QTRLY_US	2682	44486316.05	16586.99

The MEANS Procedure

Variable	N	Sum	Mean
FactorA	2682	2835.65	1.0572910 ✓
FactorQ	2682	2971.72	1.1080250 ✓
Capa	2682	46344960.00	17280.00 ✓
Capq	2682	46827720.00	17460.00 ✓

PETROLEUM & OTHER LIQUIDS

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Spot Prices

(Crude Oil in Dollars per Barrel, Products in Dollars per Gallon)

 Period:

Product by Area		01/22/16	01/29/16	02/05/16	02/12/16	02/19/16	02/26/16	View History
Crude Oil								
WTI - Cushing, Oklahoma	<input type="checkbox"/>	29.19	31.81	31.26	28.14	30.02	31.32	1986-2016
Brent - Europe	<input type="checkbox"/>	27.76	31.75	32.18	30.41	32.29	33.12	1987-2016
Conventional Gasoline								
New York Harbor, Regular	<input type="checkbox"/>	1.065	1.098	1.058	0.994	1.109	1.073	1986-2016
U.S. Gulf Coast, Regular	<input type="checkbox"/>	0.962	1.008	0.911	0.883	0.944	0.979	1986-2016
RBOB Regular Gasoline								
Los Angeles	<input type="checkbox"/>	1.097	1.171	1.120	0.926	0.738	1.040	2003-2016
No. 2 Heating Oil								
New York Harbor	<input type="checkbox"/>	0.871	0.946	0.979	0.925	0.987	0.987	1986-2016
Ultra-Low-Sulfur No. 2 Diesel Fuel								
New York Harbor	<input type="checkbox"/>	0.907	1.002	1.048	1.004	1.047	1.037	2006-2016
U.S. Gulf Coast	<input type="checkbox"/>	0.880	0.970	1.019	0.972	1.007	0.989	2006-2016
Los Angeles	<input type="checkbox"/>	0.959	1.034	1.057	1.009	1.031	1.029	1996-2016
Kerosene-Type Jet Fuel								
U.S. Gulf Coast	<input type="checkbox"/>	0.854	0.949	1.004	0.967	0.985	0.933	1990-2016
Propane								
Mont Belvieu, Texas	<input type="checkbox"/>	0.308	0.330	0.353	0.360	0.374	0.402	1992-2016

Click on the source key icon to learn how to download series into Excel, or to embed a chart or map on your website.

- = No Data Reported; -- = Not Applicable; NA = Not Available; W = Withheld to avoid disclosure of individual company data.

Notes: Weekly, monthly, and annual prices are calculated by EIA from daily data by taking an unweighted average of the daily closing spot prices for a given product over the specified time period. See Definitions, Sources, and Notes link above for more information on this table.

Release Date: 3/2/2016

Next Release Date: 3/9/2016

U.S.

Summary by Composition Category

	MS-2014		Prev. Idx	2016Q1		Calculation		Relative of Change
	MS Amount	Weight		Cur Idx	Prev. Idx	Cur Idx		
Forest Products	738,531,751	0.1027	321.05	323.36	32.97	33.21		
Metal Products	4,528,133,816	0.6299	169.26	164.00	106.62	103.30		
Misc. Products	1,922,455,835	0.2674	336.79	348.17	90.06	93.10		
Total	7,189,121,402	1.0000	229.65	229.61			0.9998	
Total Linked			232.73	232.68				
'77 = 100 Link Fact.=	1.423		331.17	331.10				
'80 = 100 Link Fact.=	1.061		246.93	246.87				

As info only	Change
Forest Products	0.72%
Metal Products	-3.11%
Misc. Products	<u>3.38%</u>
Total ('80=100)	-0.02%
Rounded 80 Indices	0.0%
Rounded 77 Indices	0.0%

RCAF (Forecast)

	1980	June 3Q/15	Sept. 4Q/15	Dec. 1Q/16	Mar. 2Q/16	June 3Q/16
RATE						
RR-OWNED TIME	31.00	64.00	63.00	63.00	64.00	--
RR-OWNED MILEAGE	4.69	6.70	6.70	6.70	6.70	--
PRIVATELY-OWNED CARS	25.47	49.52	50.36	50.71	51.17	--
AUTORACKS	47.00	71.57	75.23	79.66	78.72	--
INDEX						
RR-OWNED TIME	100.0	206.5	203.2	203.2	206.5	--
RR-OWNED MILEAGE	100.0	142.9	142.9	142.9	142.9	--
PRIVATELY-OWNED CARS	100.0	194.4	197.7	199.1	200.9	--
AUTORACKS	100.0	152.3	160.1	169.5	167.5	--
CAR HIRE INDEX (old wts) 2013	100.0	192.1	--	--	--	--
CAR HIRE INDEX (new wts) 2014	100.0	192.1	194.3	195.6	197.4	--
CAR HIRE INDEX (LINKED)	100.0	191.6	193.8	195.1	196.9	--

Note: The Car Hire Index for third quarter using *old weights* and *linked* should match that quarter's filing. The third quarter *new weights* version is used in the fourth quarter linked index calculation to ensure that the transition from old weights to new weights does not impact the linked index.

Note: Indexes are rounded, rates are full float.

Equipment Rents Data From CHARM

	2015 (first day of month)						2016 (first day of month)							
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Railroad Equipment														
No. of Cars (cars with rates only)														
Superstructures (Vehicular Flats)	7,887	7,919	7,917	7,910	7,910	7,908	7,995	8,002	7,883					
Rate (in cents)														
Superstructures #3 - Auto Rack	49.0	50.0	50.0	50.0	50.0	50.0	51.0	51.0	49.0					
All other #1 - Time	63.0	63.0	63.0	63.0	63.0	63.0	64.0	64.0	64.0					
All other #2 - Mileage	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7					
Private Equipment														
No. of Cars (cars with rates only)														
Superstructures (Vehicular Flats)	52,263	52,563	52,956	53,310	53,709	54,090	54,221	54,344	54,688					
Covered Hoppers	361,701	363,687	365,583	367,833	370,297	372,269	373,440	374,916	376,352					
Tank Cars	380,115	382,665	385,215	387,405	389,726	393,040	395,223	396,381	397,752					
Others	291,161	290,976	290,909	291,473	291,269	291,163	289,632	289,175	289,058					
Rate (in cents)														
Superstructures #1 - Time	82.0	82.0	82.0	82.0	82.0	82.0	81.0	82.0	83.0					
Superstructures #2 - Mileage	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6					
Superstructures #3 - Auto Rack	76.0	78.0	79.0	81.0	83.0	84.0	83.0	83.0	83.0					
Covered Hoppers #2 - Mileage	44.6	44.7	44.8	44.8	44.9	45.0	45.0	45.1	45.0					
Tank Cars #2 - Mileage	78.1	78.3	78.6	78.8	79.0	79.1	79.3	79.4	79.6					
Others #1 - Time	78.0	79.0	79.0	79.0	79.0	79.0	81.0	81.0	81.0					
Others #2 - Mileage	7.8	7.8	7.8	7.8	7.7	7.7	7.8	7.8	7.8					
AVERAGE RATES														
Private Superstructures	20.87	20.87	20.87	20.87	20.87	20.87	20.64	20.87	21.11	0.00	0.00	0.00	0.00	0.00
Private Others	25.12	25.34	25.34	25.34	25.24	25.24	25.78	25.78	25.78	0.00	0.00	0.00	0.00	0.00
Private Total	49.96	50.18	50.36	50.46	50.58	50.71	50.99	51.10	51.17	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Autoracks	72.46	74.33	75.23	76.99	78.76	79.66	78.89	78.89	78.72	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

WEIGHTS	"Old Wts"	"New Wts"
	2013	2014
For RCAF & RCR		
RR-owned Time	0.148	0.156
RR-owned Mileage	0.072	0.060
Privately-owned Cars	0.772	0.758
Autoracks	0.008	0.026
----- Check sum	1.000	1.000

Weights for Equipment Rents (not used in Car Hire calculation)		
	2013	2014
Car Hire - U.S.	0.528	0.565
Lease Rentals - U.S.	0.472	0.435
----- Check sum	1.000	1.000

Note: The 4 bold lines are used for the Car Hire Rate. Private Total uses a weighted average of the Covered Hoppers, Tank Cars, Combined Private Superstructures, and Combined Private Others rates.

CHARM Process - Car Hire Rate Report
Average Car Rental Rates for 03/2016

Ownership	Car Group	Car Count	Time Rate (cents/hour)	Mileage Rate (\$/mile)	Auto Rack Rate (cents/hour)
Railroad	Vehicular Flats	7,883	120	0.081	49
Railroad	Number of Zero-Rated Vehicular Flats	25	.	.	.
Railroad	All Other Cars	450,997	64	0.067	.
Railroad	Number of Zero-Rated Other Cars	18,447	.	.	.
Railroad	Total Railroad Equipment	477,352	.	.	.
	
Private	Vehicular Flats	54,688	83	0.016	83
Private	Number of Zero-Rated Vehicular Flats	164	.	.	.
Private	Covered Hoppers	376,352	0	0.450	.
Private	Number of Zero-Rated Covered Hoppers	12,124	.	.	.
Private	Tanks	397,752	0	0.796	.
Private	Number of Zero-Rated Tanks	8,887	.	.	.
Private	All Other Cars	289,058	81	0.078	.
Private	Number of Zero-Rated Other Cars	27,696	.	.	.
Private	Total Private Equipment	1,166,721	.	.	.

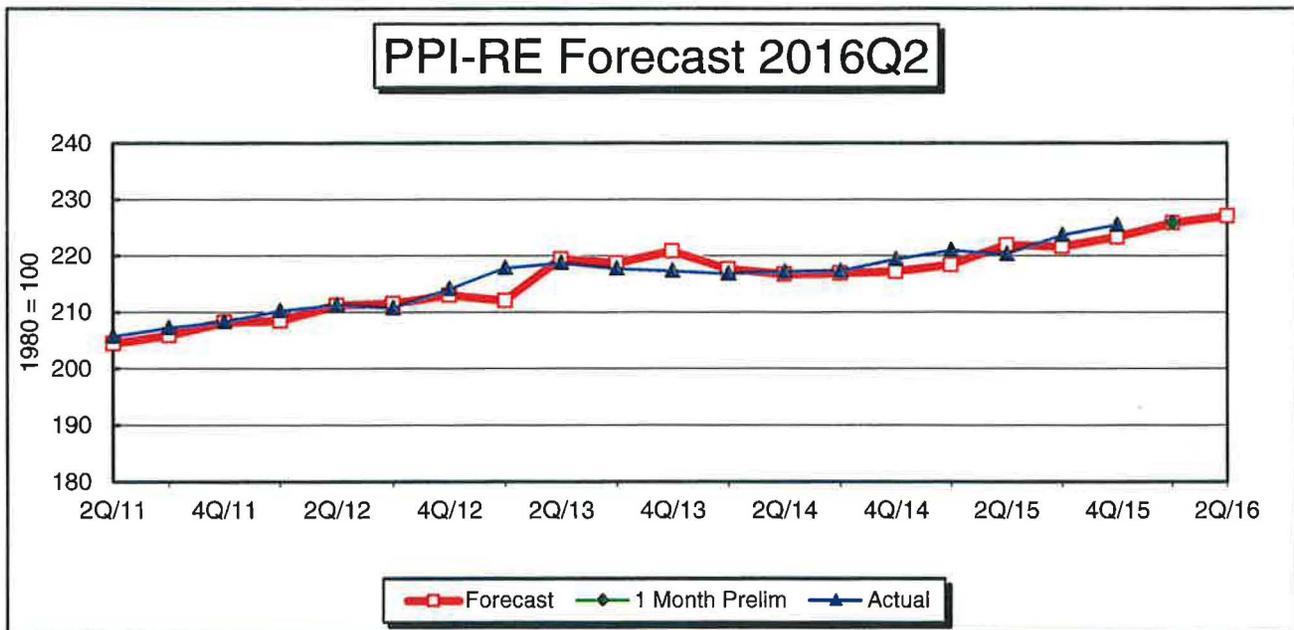
Notes
This report excludes these car types: D (Locomotives), M (MoW, EOTs, etc.), U (Containers), Z (Trailers).
All TTX equipment (including ABOX, RBOX, GONX) is contained in the Private section of report.
Equipment can be zero rated due to owners supplying incorrect or insufficient information to the car accounting process.
Zero-rated equipment includes those with Umler Rate_Indicator of 6 and 0 (zero).
Zero-rated equipment is excluded from the averages shown in this report.
Equipment must be Active in Umler to be included in this report; Pre-registered and Inactive cars are excluded.

PPI-RE Forecast (for Depreciation Component)

	<u>Forecast</u>	<u>Actual</u>	<u>1 Month Prelim</u>
2Q/11	204.6	205.8	
3Q/11	206.1	207.3	
4Q/11	208.4	208.4	
1Q/12	208.7	210.3	
2Q/12	211.4	211.4	
3Q/12	211.7	210.8	
4Q/12	213.2	214.2	
1Q/13	212.2	217.9	
2Q/13	219.6	218.8	
3Q/13	218.9	217.8	
4Q/13	221.0	217.4	
1Q/14	217.8	216.9	
2Q/14	216.9	217.3	
3Q/14	217.1	217.4	
4Q/14	217.4	219.5	
1Q/15	218.6	221.1	
2Q/15	222.1	220.4	
3Q/15	221.8	223.8	
4Q/15	223.5	225.6	
1Q/16	226.0		225.9
2Q/16	227.2		

1980 Base

	<u>PPI-RE Forecast</u>		<u>Percent Change</u>			
	(82=100)	(80=100)	Yr Ago Actual	Latest Month Actual	2nd Prev Qtr Actual	Previous Forecast
2016Q2						
Low	202.6	224.1	1.7%			
Midpoint	205.4	227.2	3.1%	0.6%	0.7%	0.5%
High	208.2	230.3	4.5%			



re_ppi

Forecast Pro Version 4.3 Standard Edition

Database I:\Indexes2\RCAF\2016Q2\5Deprec\FPre_ppi.xls is open and ready for use.

Expert data exploration of dependent variable PPIRE

Length 72 Minimum 184.200 Maximum 204.500
Mean 193.361 Standard deviation 6.227

Classical decomposition (multiplicative)
Trend-cycle: 97.65% Seasonal: 0.37% Irregular: 1.98%

Log transform recommended for Box-Jenkins.

Choice is narrowed down to Box-Jenkins or exponential smoothing.

Exponential smoothing outperforms Box-Jenkins by 1.020 to 2.010 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	0.64719	204.35
Trend	0.02035	0.27480

Within-Sample Statistics

Sample size 72 Number of parameters 2
Mean 193.4 Standard deviation 6.227
R-square 0.9793 Adjusted R-square 0.979
Durbin-watson 1.973 Ljung-Box(18)=19.49 P=0.6376
Forecast error 0.9021 BIC 0.9439
MAPE 0.003092 RMSE 0.8895
MAD 0.6015

Forecast Report
Thu Feb 18 08:24:39 2016
Exponential Smoothing model for PPIRE
Analysis of Historic Fit Set

Date	Historic
2010-02	184.700
2010-03	184.500
2010-04	184.500
2010-05	184.600
2010-06	184.600
2010-07	184.500
2010-08	184.500
2010-09	184.500
2010-10	184.200
2010-11	184.200

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2010-12	184.200
2011-01	184.900
2011-02	185.100
2011-03	187.000
2011-04	186.600
2011-05	186.700
2011-06	186.800
2011-07	187.300
2011-08	187.400
2011-09	187.500
2011-10	187.500
2011-11	187.700
2011-12	189.900
2012-01	190.100
2012-02	190.100
2012-03	190.600
2012-04	191.800
2012-05	191.600
2012-06	191.500
2012-07	192.000
2012-08	190.400
2012-09	190.900
2012-10	194.900
2012-11	193.900
2012-12	194.100
2013-01	196.000
2013-02	195.200
2013-03	195.800
2013-04	195.200
2013-05	198.100
2013-06	196.300
2013-07	195.400
2013-08	194.500
2013-09	194.600
2013-10	195.100
2013-11	195.200
2013-12	196.900
2014-01	196.000
2014-02	197.400
2014-03	196.800
2014-04	196.200
2014-05	196.700
2014-06	196.800
2014-07	197.800
2014-08	197.900
2014-09	198.300
2014-10	199.300
2014-11	199.900
2014-12	199.500
2015-01	200.800 ✓
2015-02	200.500 ✓
2015-03	199.500 ✓
2015-04	200.500 ✓
2015-05	200.000 ✓
2015-06	201.400 ✓
2015-07	201.600 ✓
2015-08	202.800 ✓
2015-09	202.800 ✓
2015-10	203.300 ✓
2015-11	203.900 ✓
2015-12	204.500 ✓
2016-01	204.200 ✓

re_ppi

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2016-02	202.770	204.620	206.470
2016-03	202.678	204.895	207.112
2016-04	202.638	205.170	207.701
2016-05	202.634	205.445	208.255
2016-06	202.655	205.719	208.784
2016-07	202.695	205.994	209.293
2016-08	202.751	206.269	209.787
2016-09	202.819	206.544	210.268
2016-10	202.899	206.819	210.738
2016-11	202.988	207.093	211.199
2016-12	203.085	207.368	211.652
2017-01	203.189	207.643	212.097

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Producer Price Index-Commodities

Series Id: WPU144
 Not Seasonally Adjusted
Group: Transportation equipment
Item: Railroad equipment
Base Date: 198200

Download:  [xlsx](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	200.8	200.5	199.5	200.5	200.0	201.4	201.6	202.8	202.8	203.3(P)	203.9(P)	204.5(P)
2016	204.2(P)											

P : Preliminary. All indexes are subject to revision four months after original publication.

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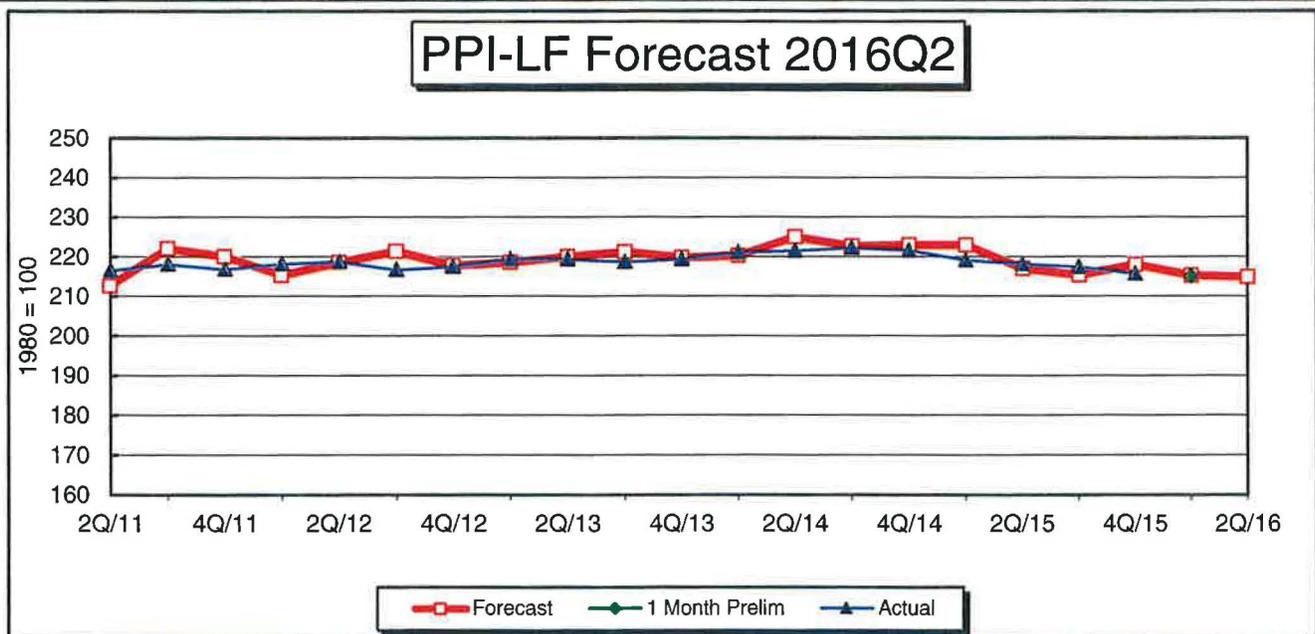
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PPI-LF Forecast (for Other and Lease Rentals Components)

	<u>Forecast</u>	<u>Actual</u>	<u>1 Month Prelim</u>
2Q/11	212.9	216.6	
3Q/11	222.3	218.2	
4Q/11	220.3	216.9	
1Q/12	215.6	218.3	
2Q/12	218.8	218.9	
3Q/12	221.6	216.8	
4Q/12	218.0	217.6	
1Q/13	218.8	219.5	
2Q/13	220.2	219.4	
3Q/13	221.4	218.8	
4Q/13	220.0	219.4	
1Q/14	220.5	221.2	
2Q/14	225.2	221.6	
3Q/14	222.9	222.3	
4Q/14	223.2	221.7	
1Q/15	223.1	219.2	
2Q/15	217.2	218.2	
3Q/15	215.6	217.5	
4Q/15	218.2	215.8	
1Q/16	215.5		215.2
2Q/16	215.1		

1980 Base

	<u>PPI-LF Forecast</u>		<u>Percent Change</u>			
	(82=100)	(80=100)	Yr Ago Actual	Latest Month Actual	2nd Prev Qtr Actual	Previous Forecast
2016Q2						
Low	188.2	211.0	-3.3%			
Midpoint	191.9	215.1	-1.4%	0.0%	-0.3%	-0.2%
High	195.5	219.2	0.5%			



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Forecast Pro Version 4.3 Standard Edition

Database I:\Indexes2\RCAF\2016Q2\70ther\FPIf_ppi.xls is open and ready for use.

Expert data exploration of dependent variable PPILF

Length 72 Minimum 181.200 Maximum 198.400
Mean 193.160 Standard deviation 4.494

Classical decomposition (multiplicative)
Trend-cycle: 93.07% Seasonal: 1.13% Irregular: 5.80%

Choice is narrowed down to Box-Jenkins or exponential smoothing.

Box-Jenkins outperforms exponential smoothing by 1.076 to 1.578 out-of-sample Mean Absolute Deviation. I tried 78 forecasts up to a maximum horizon 12.

Series is nonstationary 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]	0.6579	0.0885	7.4325	1.0000
A[12]	0.4402	0.0974	4.5210	1.0000

Within-Sample Statistics

Sample size 72	Number of parameters 2
Mean 193.2	Standard deviation 4.494
R-square 0.9875	Adjusted R-square 0.9873
Durbin-watson 2.026	Ljung-Box(18)=18.23 P=0.5594
Forecast error 0.5056	BIC 0.5291
MAPE 0.002042	RMSE 0.4985
MAD 0.3941	

Forecast Report
Thu Feb 18 08:28:30 2016
Box-Jenkins model for PPILF
Analysis of Historic Fit Set

Date	Historic
2010-02	181.200
2010-03	182.400
2010-04	183.800
2010-05	184.000
2010-06	183.100
2010-07	182.700
2010-08	183.100
2010-09	183.500
2010-10	184.600
2010-11	185.400
2010-12	186.300
2011-01	188.600
2011-02	190.200
2011-03	191.200
2011-04	193.000
2011-05	193.700

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2011-06	193.900
2011-07	194.600
2011-08	194.500
2011-09	194.600
2011-10	193.900
2011-11	193.200
2011-12	192.700
2012-01	193.800
2012-02	194.700
2012-03	195.700
2012-04	195.800
2012-05	195.400
2012-06	193.700
2012-07	193.300
2012-08	193.300
2012-09	193.700
2012-10	193.900
2012-11	194.000
2012-12	194.200
2013-01	195.300
2013-02	196.100
2013-03	196.100
2013-04	195.900
2013-05	195.500
2013-06	195.400
2013-07	195.200
2013-08	195.300
2013-09	195.100
2013-10	195.400
2013-11	195.500
2013-12	195.900
2014-01	197.200
2014-02	197.600
2014-03	197.300
2014-04	197.700
2014-05	197.600
2014-06	197.700
2014-07	198.200
2014-08	198.400
2014-09	198.300
2014-10	198.200
2014-11	197.400
2014-12	196.700
2015-01	196.000
2015-02	195.400
2015-03	195.000
2015-04	194.800
2015-05	194.900
2015-06	195.200
2015-07	194.900
2015-08	193.900
2015-09	193.100
2015-10	193.100
2015-11	192.400
2015-12	192.100
2016-01	192.000

Forecasted Values

Date	2.5 Lower	Forecast	97.5 Upper
2016-02	190.889	191.873	192.857

			1f_ppi
2016-03	189.882	191.787	193.692
2016-04	188.954	191.758	194.562
2016-05	188.191	191.841	195.491
2016-06	187.562	191.999	196.435
2016-07	186.719	191.884	197.048
2016-08	185.616	191.454	197.292
2016-09	184.646	191.110	197.574
2016-10	184.066	191.114	198.163
2016-11	183.213	190.809	198.405
2016-12	182.567	190.679	198.791
2017-01	182.036	190.637	199.237



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Producer Price Index-Commodities

Series Id: WPU03T15M05

Not Seasonally Adjusted

Group: Industrial Commodities less fuels

Item: Industrial commodities less fuels

Base Date: 198200

Download: [xlsx](#)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	196.0	195.4	195.0	194.8	194.9	195.2	194.9	193.9	193.1	193.1(P)	192.4(P)	192.1(P)
2016	192.0(P)											

P : Preliminary. All indexes are subject to revision four months after original publication.

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Forecast Error Calculation

	Fourth Quarter 2015			Difference		Notes
	2014 Weight	2015Q4 Forecast	2015Q4 Actual	Pt.	Pct.	
Labor	31.7%	403.6	403.6	0.0	0%	* actual=forecast
Fuel	20.9%	210.8	198.5	-12.3	-6%	from 1st month of quarter
M&S	5.2%	264.8	264.8	0.0	0%	* actual=forecast
Equip Rents	5.4%	214.7	214.3	-0.4	0%	from Equipment Rents below
Depreciation	12.6%	223.5	225.6	2.1	1%	PPI-RE
Interest	1.5%	57.5	57.5	0.0	0%	* actual=forecast
Other	22.7%	218.2	215.8	-2.4	-1%	PPI-LF
Weighted Avg	100.0%					
1980 = 100		275.9	273.0			calculated
1980 = 100 (linked)		263.4	259.8			calculated
4Q12r = 100	2.976	88.5	87.3			calculated
4Q07 = 100	2.459	107.1	105.7			calculated
4Q02 = 100	1.921	137.1	135.2			calculated
4Q97 = 100	1.732	152.1	150.0			calculated
4Q92 = 100	1.569	167.9	165.6			calculated
Forecast Error		-1.2				calculated
						-0.012 = RCAF adj.
Prior Quarter						
1980 = 100		282.5	277.8 **			Re-calculated using new weights
1980 = 100 (linked)		269.7	264.4			
4Q12r = 100		90.6	88.8			calculated
4Q07 = 100		109.7	107.5			calculated
4Q02 = 100		140.4	137.6			calculated
4Q97 = 100		155.7	152.7			calculated
4Q92 = 100		171.9	168.5			calculated
Equipment Rents						
Car Hire	56.5%	193.8	194.8			from Equipment Rents/CHARM
Lease Rentals	43.5%	218.2	215.8			(equals PPI-LF from above)
Weighted Average		204.4	203.9			calculated
Linked		214.7	214.3			calculated
Prior Quarter						
Weighted Average		202.0	203.8 **			Re-calculated using new weights
Linked		212.2	214.2			
Sum of Weights	ok					** if fourth quarter, weighted avg for prior needs to use new weights, linked is ok
Sum of ER Wt.	ok					

Factors to change from 1982=100 to 1980 = 100

203.30	203.90	204.50
193.10	192.40	192.10

0.9040
0.8920

All-Inclusive Index (Actual)

	14 Wts	3Q/15 13 Wts	3Q/15 14 Wts	% Chg.	4Q/15 14 Wts	% Chg.	1Q/16 14 Wts	% Chg.	2Q/16 14 Wts	% Chg.	3Q/16 14 Wts	% Chg.
Labor	31.7%	404.3	404.3	0.0%	403.6	-0.2%		NA		NA		NA
Fuel	20.9%	220.1	220.1	0.0%	198.5	-9.8%		NA		NA		NA
M&S	5.2%	258.9	258.9	0.0%	264.8	2.3%		NA		NA		NA
Equipment Rents	5.4%	214.2	214.2	0.0%	214.3	0.0%	0.0	NA	#DIV/0!	NA	#DIV/0!	NA
Depreciation	12.6%	223.8	223.8	0.0%	225.6	0.8%		NA		NA		NA
Interest	1.5%	70.6	70.6	0.0%	57.5	-18.6%	57.5	0.0%	57.5	0.0%	57.5	0.0%
Other	22.7%	217.5	217.5	0.0%	215.8	-0.8%		NA		NA		NA
	1.0000											
Weighted Avg.		276.9	277.8	0.3%	273.0	-1.7%	0.9	NA	#DIV/0!	NA	#DIV/0!	NA
Linked		264.4			259.8	-1.7%	0.9	NA	#DIV/0!	NA	#DIV/0!	NA
10/1/80	1.027	257.4			253.0	-1.7%	0.9	NA	#DIV/0!	NA	#DIV/0!	NA
10/1/82	1.209	218.7			214.9	-1.7%	0.7	NA	#DIV/0!	NA	#DIV/0!	NA
4Q/87	1.322	200.0			196.5	-1.8%	0.7	NA	#DIV/0!	NA	#DIV/0!	NA
4Q/92	1.569	168.5			165.6	-1.7%	0.6	NA	#DIV/0!	NA	#DIV/0!	NA
4Q/97	1.732	152.7			150.0	-1.8%	0.5	NA	#DIV/0!	NA	#DIV/0!	NA
4Q/02	1.921	137.6			135.2	-1.7%	0.5	NA	#DIV/0!	NA	#DIV/0!	NA
4Q/07	2.459	107.5			105.7	-1.7%	0.4	NA	#DIV/0!	NA	#DIV/0!	NA
4Q/12	2.976	88.8			87.3	-1.7%	0.3	NA	#DIV/0!	NA	#DIV/0!	NA

Equipment Rents

Car Hire	56.5%	193.3	193.3	0.0%	194.8	0.8%		NA		NA		NA
Lease Rentals	43.5%	217.5	217.5	0.0%	215.8	-0.8%	0.0	NA	0.0	NA	0.0	NA
	1.0000											
ER Weighted Avg		204.7	203.8	-0.4%	203.9	0.0%	0.0	NA	0.0	NA	0.0	NA
ER Linked		214.2			214.3	0.0%	0.0	NA	#DIV/0!	NA	#DIV/0!	NA

Impact/Check of weight change	13 Wts	14 Wts
Labor	127.759	128.163
Fuel	48.642	46.001
Material & Supplies	12.686	13.463
Equipment Rents	11.567	11.567
Depreciation	26.856	28.199
Interest	1.341	1.059
Other	48.068	49.373
Weighted Avg.	276.919	277.824
ER Weighted Avg.	204.7224	203.827

As info only

RCAF Fuel (Actual All-Inclusive Index)

October 2015

Monthly Report

	October 2015 Price (cents) (1)	1/1/81 Price (cents) (2)	1/91 New Method Linking Factors (3)	October 2015 Index 1/1/81=100 (4)	Linking Factor 1980=100 (5)	October 2015 1980=100 Current Index (6)
U.S.	162.45	89.34	99.415	180.77	1.096	198.12
				(4) = (1) / (2) x (3)		(6) = (4) x (5)

Final Actual All-inclusive Index Used for RCAF's Forecast Error Adjustment

	October 2015 1980=100 Current Index	Adjustment Factor	October 2015 1980=100 Linked Index
U.S.	198.12	1.00192	198.50 ←

January	=	Q1
April	=	Q2
July	=	Q3
October	=	Q4

RCAF (Actual)

		1980	Aug 3Q/15	Nov 4Q/15	Feb 1Q/16	May 2Q/16	Aug 3Q/16
RATE							
RR-OWNED TIME		31.00	63.00	63.00	64.00	--	--
RR-OWNED MILEAGE		4.69	6.70	6.70	6.70	--	--
PRIVATELY-OWNED CARS		25.47	50.18	50.58	51.10	--	--
AUTORACKS		47.00	74.33	78.76	78.89	--	--
INDEX							
RR-OWNED TIME		100.0	203.2	203.2	206.5	--	--
RR-OWNED MILEAGE		100.0	142.9	142.9	142.9	--	--
PRIVATELY-OWNED CARS		100.0	197.0	198.6	200.6	--	--
AUTORACKS		100.0	158.2	167.6	167.9	--	--
CAR HIRE INDEX (old wts)	2013	100.0	193.7	--	--	--	--
CAR HIRE INDEX (new wts)	2014	100.0	193.7	195.2	197.2	--	--
CAR HIRE INDEX (LINKED)		100.0	193.3	194.8	196.8	--	--



Note: Indexes are rounded, rates are full float.

Equipment Rents Data From CHARM

	2015 (first day of month)						2016 (first day of month)							
	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Railroad Equipment														
No. of Cars (cars with rates only)														
Superstructures (Vehicular Flats)	7,887	7,919	7,917	7,910	7,910	7,908	7,995	8,002						
Rate (in cents)														
Superstructures #3 - Auto Rack	49.0	50.0	50.0	50.0	50.0	50.0	51.0	51.0						
All other #1 - Time	63.0	63.0	63.0	63.0	63.0	63.0	64.0	64.0						
All other #2 - Mileage	6.7	6.7	6.7	6.7	6.7	6.7	6.7	6.7						
Private Equipment														
No. of Cars (cars with rates only)														
Superstructures (Vehicular Flats)	52,263	52,563	52,956	53,310	53,709	54,090	54,221	54,344						
Covered Hoppers	361,701	363,687	365,583	367,833	370,297	372,269	373,440	374,916						
Tank Cars	380,115	382,665	385,215	387,405	389,726	393,040	395,223	396,381						
Others	291,161	290,976	290,909	291,473	291,269	291,163	289,632	289,175						
Rate (in cents)														
Superstructures #1 - Time	82.0	82.0	82.0	82.0	82.0	82.0	81.0	82.0						
Superstructures #2 - Mileage	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6						
Superstructures #3 - Auto Rack	76.0	78.0	79.0	81.0	83.0	84.0	83.0	83.0						
Covered Hoppers #2 - Mileage	44.6	44.7	44.8	44.8	44.9	45.0	45.0	45.1						
Tank Cars #2 - Mileage	78.1	78.3	78.6	78.8	79.0	79.1	79.3	79.4						
Others #1 - Time	78.0	79.0	79.0	79.0	79.0	79.0	81.0	81.0						
Others #2 - Mileage	7.8	7.8	7.8	7.8	7.7	7.7	7.8	7.8						
AVERAGE RATES														
Private Superstructures	20.87	20.87	20.87	20.87	20.87	20.87	20.64	20.87	0.00	0.00	0.00	0.00	0.00	0.00
Private Others	25.12	25.34	25.34	25.34	25.24	25.24	25.78	25.78	0.00	0.00	0.00	0.00	0.00	0.00
Private Total	49.96	50.18	50.36	50.46	50.58	50.71	50.99	51.10	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Autoracks	72.46	74.33	75.23	76.99	78.76	79.66	78.89	78.89	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

WEIGHTS	"Old Wts"	"New Wts"
	2013	2014
For RCAF & RCR		
RR-owned Time	0.148	0.156
RR-owned Mileage	0.072	0.060
Privately-owned Cars	0.772	0.758
Autoracks	0.008	0.026
----- Check sum	1.000	1.000

Weights for Equipment Rents (not used in Car Hire calculation)		
	2013	2014
Car Hire - U.S.	0.528	0.565
Lease Rentals - U.S.	0.472	0.435
----- Check sum	1.000	1.000

Note: The 4 bold lines are used for the Car Hire Rate. Private Total uses a weighted average of the Covered Hoppers, Tank Cars, Combined Private Superstructures, and Combined Private Others rates.

CHARM Process - Car Hire Rate Report
Average Car Rental Rates for 11/2015

Ownership	Car Group	Car Count	Time Rate (cents/hour)	Mileage Rate (\$/mile)	Auto Rack Rate (cents/hour)
Railroad	Vehicular Flats	7,910	120	0.081	50
Railroad	Number of Zero-Rated Vehicular Flats	12	.	.	.
Railroad	All Other Cars	453,717	63	0.067	.
Railroad	Number of Zero-Rated Other Cars	17,810	.	.	.
Railroad	Total Railroad Equipment	479,449	.	.	.
	
Private	Vehicular Flats	53,709	82	0.016	83
Private	Number of Zero-Rated Vehicular Flats	56	.	.	.
Private	Covered Hoppers	370,297	0	0.449	.
Private	Number of Zero-Rated Covered Hoppers	10,813	.	.	.
Private	Tanks	389,726	0	0.790	.
Private	Number of Zero-Rated Tanks	8,098	.	.	.
Private	All Other Cars	291,269	79	0.077	.
Private	Number of Zero-Rated Other Cars	27,389	.	.	.
Private	Total Private Equipment	1,151,357	.	.	.

Notes
This report excludes these car types: D (Locomotives), M (MoW, EOTs, etc.), U (Containers), Z (Trailers).
All TTX equipment (including ABOX, RBOX, GONX) is contained in the Private section of report.
Equipment can be zero rated due to owners supplying incorrect or insufficient information to the car accounting process.
Zero-rated equipment includes those with Umler Rate_Indicator of 6 and 0 (zero).
Zero-rated equipment is excluded from the averages shown in this report.
Equipment must be Active in Umler to be included in this report; Pre-registered and Inactive cars are excluded.

RCAF - Depreciation

Series ID : wpu144

Not Seasonally Adjusted

Group : Transportation equipment

Item : Railroad equipment

Forecast Year 2016

As reported at end of month 82=100

		Nov.	Feb.	May	Aug.
For Forecast	→	16Q1	16Q2	16Q3	16Q4
For Actual	→	15Q3	15Q4	16Q1	16Q2
January	2015	200.8	200.8	200.8	200.8
February	2015	200.5	200.5	200.5	200.5
March	2015	199.5	199.5	199.5	199.5
April	2015	200.5	200.5		
May	2015	200.0	200.0		
June	2015	201.4	201.4		
July	2015	201.6	201.6 ✓		
August	2015	202.6	202.8 ✓		
September	2015	202.8	202.8 ✓		
October	2015	203.3	203.3 ✓		
November	2015		203.9 ✓		
December	2015		204.5 ✓		
January	2016		204.2 ✓		
February	2016				
March	2016				
April	2016				
May	2016				
June	2016				
July	2016				
Actual Qtr.		202.3	203.9	NA	NA

1980=100

Actual Qtr.	223.8	225.6	NA	NA
First Mo. next qtr.	224.9	225.9	NA	NA

0.904 =1980

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Producer Price Index-Commodities

Series Id: WPU144
 Not Seasonally Adjusted
Group: Transportation equipment
Item: Railroad equipment
Base Date: 198200

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Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	200.8	200.5	199.5	200.5	200.0	201.4	201.6	202.8	202.8	203.3(P)	203.9(P)	204.5(P)
2016	204.2(P)											

P : Preliminary. All indexes are subject to revision four months after original publication.

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RCAF - Other

Series ID : wpu03t15m05

Not Seasonally Adjusted

Group : Industrial Commodities less fuels

Item : Industrial commodities less fuels

Forecast Year 2015

As reported at end of month 82=100

		Nov.	Feb.	May	Aug.
For Forecast →		16Q1	16Q2	16Q3	16Q4
For Actual →		15Q3	15Q4	16Q1	16Q2
January	2015	196.0	196.0	196.0	196.0
February	2015	195.4	195.4	195.4	195.4
March	2015	195.0	195.0	195.0	195.0
April	2015	194.8	194.8		
May	2015	194.9	194.9		
June	2015	195.2	195.2		
July	2015	194.7	194.9		
August	2015	194.1	193.9		
September	2015	193.2	193.1		
October	2015	193.1	193.1 ✓		
November	2015		192.4 ✓		
December	2015		192.1 ✓		
January	2016		192.0		
February	2016				
March	2016				
April	2016				
May	2016				
June	2016				
July	2016				
Actual Qtr.		194.0	192.5	NA	NA

1980=100

Actual Qtr.	217.5	215.8	NA	NA
First Mo. next qtr.	216.5	215.2	NA	NA

0.892 =1980

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Producer Price Index-Commodities

Series Id: WPU03T15M05
Not Seasonally Adjusted
Group: Industrial Commodities less fuels
Item: Industrial commodities less fuels
Base Date: 198200

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Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	196.0	195.4	195.0	194.8	194.9	195.2	194.9	193.9	193.1	193.1(P)	192.4(P)	192.1(P)
2016	192.0(P)											

P : Preliminary. All indexes are subject to revision four months after original publication.

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