STB EX PARTE NO. 558

RAILROAD COST OF CAPITAL — 1996

Decided July 2, 1997

Upon review of the evidence tendered in this proceeding, the Board finds that in 1996, the railroad industry had: (1) a current cost of debt of 7.4%; (2) a current cost of common equity capital of 13.9%; (3) a cost of preferred equity capital of 2.3%; (4) a capital structure mix of 28.0% debt, 70.7% common equity, and 1.3% preferred equity capital; and (5) a composite cost of capital of 11.9%.

BY THE BOARD:

One of the Surface Transportation Board's regulatory responsibilities is the annual determination of the railroad industry's cost of capital. This determination is one component used in evaluating the adequacy of railroad revenues each year under the procedures and standards mandated by Congress in the Railroad Revitalization and Regulatory Reform Act of 1976) (4R Act) and promulgated in *Standards for Railroad Revenue Adequacy*, 364 I.C.C. 803 (1981), revised, 3 I.C.C.2d 261 (1986). This finding may also be used in other regulatory proceedings including, but not necessarily limited to, those involving the prescription of maximum reasonable rate levels and proposed abandonments of rail lines.

The most recent determination of the railroad industry's cost of capital was for the year 1995, in *Railroad Cost of Capital - 1995*, 1 S.TB. 46 (1996). *(Cost 95)*. The instant proceeding, instituted in *Railroad Cost of Capital — 1996*, STB Ex Parte No. 558 (served December 12, 1996), updates the railroad industry cost of capital for the year 1996.

As has been the case since 1986, the only party to provide evidence in this proceeding was the Association of American Railroads (AAR). The AAR

concluded that the composite cost of capital for the railroad industry for 1996 was 11.85%.[1]

Consistent with previous cost of capital proceedings, the AAR determined the overall railroad industry cost of capital rate using a "composite railroad" comprised of Class I carriers controlled by selected major railroad holding companies. The selection of these companies is based on criteria developed in *Railroad Cost of Capital — 1984*, 1 I.C.C.2d 989 (1985).[2] The following companies are included: Burlington Northern Santa Fe Corporation (BNSF), Consolidated Rail Corporation (CRC), CSX Corporation (CSX), Illinois Central Corporation (IC), Kansas City Southern Corporation (KCS), Norfolk Southern Corporation (NSC), and the Union Pacific Corporation (UPC).[3] These companies account for almost 97% of total operating revenues and over 98% of railroad assets of all Class I railroads.[4]

As discussed below, we have examined the procedures used by the AAR to determine the following for 1996: (1) the current cost of debt capital; (2) the cost of common equity capital; (3) the cost of preferred equity capital; (4) the capital structure mix; and (5) the composite railroad industry cost of capital.

DEBT CAPITAL

The AAR developed its 1996 current cost of debt using bond price data from Standard & Poor's Corporation *Bond Guide*. The AAR's cost of debt is based on the market value yields of the major forms of long-term debt

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[1] This figure is slightly higher than the 1995 cost of capital rate (11.7%).

[2] These criteria are as follows: (1) the company is listed on either the New York or American Stock Exchange; (2) the company paid dividends throughout the year; (3) the company's rail assets are greater than 50% of its total assets; and (4) the company has a debt rating of at least BBB (Standard & Poor's) and Baa (Moody's). For 1996, all U. S. Class I railroad holding companies met these criteria.

[3] While these are the same companies used in *Cost 95, supra*, the composition of one of these companies (UPC) changed significantly during 1996 due to its acquisition of Southern Pacific Transportation Company (SP), effective September 11, 1996. Because SP did not meet the criteria for inclusion in the study frame, its stock prices, dividends, and growth prior to its acquisition by UPC are not included in the determination of the cost of equity. Its debt is included from the dates of its acquisition only.

[4] Only two Class I railroads (Grand Trunk Western, owned by the Canadian National Railway; and Soo Line, owned by Canadian Pacific) are not included in the composite group.

instruments for the sample railroad holding companies listed above.[5] These debt instruments include: (1) bonds, notes, and debentures (bonds); (2) equipment trust certificates (ETCs); and (3) conditional sales agreements (CSAs). The yields of these debt instruments are weighted based on their market value.

Cost of Bonds, Notes, and Debentures (Bonds)

The AAR used data contained in Standard & Poor's *Bond Guide* for the current cost of bonds, based on monthly prices and yields during 1996, for all issues (a total of 53) that were publicly traded during the year.[6]

To determine the current (1996) market value of bonds, the AAR used both the 53 traded bonds noted above and 80 additional bonds that were outstanding but not traded during 1996.[7] Continuing the procedure in effect since 1988, the AAR based the market value on monthly prices for all traded bonds (other than those issued in 1996) and the face or par value ($1,000) for all bonds not traded during the year (as well as for those issued in 1996). The AAR computed the total market value of all outstanding bonds to be $11,876.0 million. We have recomputed the dollar value of bonds to be somewhat higher ($11,957.5 million). [8]

Based on the yields for the traded bonds, the AAR calculated the weighted average 1996 yield for all bond, notes, and debentures to be 7.30%. We have reviewed the AAR's calculations and work papers. The calculations are accurate and are based on the correct methodology. Therefore, we accept the AAR's weighted cost of bonds of 7.30%.[9]

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[5] Because the UPC acquired the SP on September 11, 1996, the debt for the SP is included for only 112 days.

[6] The AAR data include 5 new bonds issued by the sample railroad holding companies during 1996 and 48 bonds issued prior to 1996 that were publicly traded during the year.

[7] The correct number of untraded bonds is 78. (*See* Table 1 in the Appendix)

[8] Our recalculation is based on three changes we made to the AAR's submission. First, the AAR's Appendix D and work papers show the value of a particular group of IC notes to be $230 million. Elsewhere, however, the AAR computes the value of these notes as $100 million. Second, an examination of the submission of data to the AAR by CSX indicates that two port authority bonds were double-counted. Third, the AAR double-counted three small NSC issues. Our adjustments addressing these issues, as well as dollar values by company, are shown in Table 1 in the Appendix.

[9] Our calculations are contained in Table 2 in the Appendix.

Cost of Equipment Trust Certificates (ETCs)

ETCs are not actively traded on secondary markets. Therefore, their costs must be estimated by comparing them to the yields of other debt securities that are actively traded. Following the practice in previous cost of capital proceedings, the AAR used government securities with maturities similar to these ETCs as surrogates for determining yields. After determining the 1996 yields for these government securities, the AAR added basis points[10] to these yields to compensate for the additional risks associated with the ETCs.

Six new ETCs were issued during 1996 — two by CSX, two by UPC, one by BNSF, and one by CRC. All except the CRC issue were rated "A." The CRC issue was rated "AA." The AAR used these six new ETCs to develop the ETC yield spread for "A" and "AA" rated ETCs.[11] In addition, 68 ETCs issued prior to 1996 are still outstanding. Using the yield spreads, the AAR calculated the weighted average cost of ETCs to be 6.60% and their market value to be $2,392.6 million for 1996.[12] We have recomputed the ETC cost and market value using the AAR's data (with a major adjustment for SP's ETCs) and calculate the market value of ETCs to be $2,209.6.[13] The results of our recomputations are shown in Table 3 in the Appendix.

Cost of Conditional Sales Agreements (CSAs)

CSAs represent a tiny fraction (less than 0.5%) of total railroad debt. The cost of CSAs, however, can be estimated. Because no new CSAs were issued

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[10] A basis point equals 1/100th of a percentage point.

[11] The AAR determined that 41 basis points should be added to government bond yields for ETCs rated A, based on the five new ETCs issued by BNSF, CSX, and UPC. The AAR added 37 basis points to government bond yields for ETCs rated AA based on the new ETC issued by CRC. The AAR also determined that these yield spreads decreased by one basis point from those used in *Cost 95, supra*. Because no new ETCs with a AAA rating were issued in 1996, this same one point decrease was applied to 1995 basis points for AAA ETCs. This produced a 30 basis point spread for ETCs with a AAA rating.

[12] The AAR has approximated the market values of ETCs using the same procedures used in previous cost of capital determinations. These procedures are based on the use of standard security industry formulas found in *Standard Security Calculation Methods*.

[13] The AAR failed to make an adjustment for the fact that the UPC acquired SP on September 11, 1996. Our recomputations, which use the 30.8% factor employed by the AAR to compute SP's bond, note, and debenture values, result in a reduction in the market value of ETCs by $183 million.

during 1996, the AAR used the average of the relative differences between ETC and CSA yield spreads developed between 1982 and 1988 to compute the CSA yield spreads for 1996.[14] Using these yield spreads, the AAR determined the weighted average cost of CSAs for 1996 to be 6.71%. The AAR determined the market value for CSAs to be $6.1 million.[15] We have recomputed the cost and market value of the CSAs using the AAR's data, and we agree with the AAR's calculations. The results of our computations are shown in Table 4 in the Appendix.

Miscellaneous Debt and Capitalized Leases

As in previous cost of capital determinations, the AAR excluded the costs of capitalized leases and miscellaneous debt in its computation of the overall current cost of debt because these costs are not observable. Also in keeping with past practice, the AAR included the book value of leases and commercial paper in the determination of the overall market value of debt, which is used to determine the railroads' capital structure mix. The AAR noted that the cost of capitalized leases is generally higher than that of other debt, but it did not make any upward correction for the cost of those leases. The AAR determined that the market value for the capitalized leases and miscellaneous debt (mainly commercial paper) was $7,201.0 million for 1996. We have examined the AAR's work papers and other evidence and, based on that examination, made some slight adjustments to that number, determining that the correct amount is

[14] Because no new CSAs have been issued since 1988, the AAR used this same procedure and the years 1982 through 1988 in past cost of capital determinations. The average numbers of additional basis points for CSAs versus ETCs are: AAA — 39, AA — 49, and A —62. Using these numbers and the basis point spreads developed for ETCs, the AAR determined that the following number of basis points should be added to CSAs, depending on their rating: AAA — 69 basis points, AA — 86 basis points, and A — 103 basis points. The spreads for AAA and A ratings are slightly lower, while the spread for AA rating is slightly higher than those for 1995.

[15] The AAR approximated the market values of CSAs using the same procedures used in previous cost of capital determinations. These procedures are based on the use of standard security industry formulas found in *Standard Security Calculation Methods*.

$7,174.8 million.[16] Table 5 in the Appendix shows our recalculations for capitalized leases and miscellaneous debt.

The AAR determined that the total market value for all debt during 1996 was $21,475.7 million. Due to the various adjustments discussed above, we have computed the total market value for all railroad debt in 1996 equal to $21,347.88 million.[17]

Flotation Costs of Debt

As in past cost of capital decisions, the AAR's calculation of the current cost of debt included a flotation cost factor consisting of costs associated with the issuance of new debt such as underwriters' fees, advertising costs, and legal fees. The AAR determined that flotation costs for debt equaled 0.15%.

We have reviewed the AAR's calculations concerning flotation costs and find that the cost factors developed for the various components of debt are reasonable. However, our calculations produce a slightly higher flotation cost factor (.155% versus .15%).[18]

Overall Current Cost of Debt

The AAR concluded that the railroads' current cost of debt for 1996 was 7.33%. We have reviewed the AAR's evidence relative to the current cost of debt and arrive at a fractionally higher figure (7.35%). Our calculations are shown in Table 8 in the Appendix.

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[16] The AAR does not provide a breakdown of capital leases and miscellaneous debt by railroad. Our calculations are based on examination of work papers provided by the AAR. The reason for the $25 million difference could not be readily determined. However, it represents only one-third of a percentage point of the entire miscellaneous debt valuation and is therefore not significant.

[17] *See,* Table 6 in the Appendix for a complete breakdown of the market value of debt.

[18] *See,* Table 7 in the Appendix for these calculations. The AAR's flotation cost factors are based on data developed by Salomon Brothers for ETCs and studies by the Securities and Exchange Commission concerning flotation costs for issuances of new bonds. The estimated flotation cost for CSAs is the same as that used in prior proceedings.

COMMON EQUITY CAPITAL

In previous cost of capital decisions, we have determined the cost of common equity using the Discounted Cash Flow (DCF) method. The AAR submitted evidence as to the current cost of equity capital using this procedure. This evidence is virtually identical to that furnished by the AAR in previous cost of capital proceedings.

Market Value of Common Equity

The AAR calculated the 1996 market value of common equity by multiplying the number of shares outstanding by the daily closing price for each trading day during the year for each of the sample railroads.[19] The AAR determined that the average market value for the year 1996 was $53,444.4 million. We have reviewed the AAR's calculations and have determined that the average market value should be $53,944.1 billion.[20] Table 9 in the Appendix shows our calculations of the average market value of common equity and relative weights for each railroad.

Discounted Cash Flow (DCF) Method

The DCF method of determining the cost of common equity is used by the majority of state regulatory agencies and has been used by the Interstate Commerce Commission (ICC) and the Board for many years. Under the DCF method, the cost of common equity is the discount rate that makes the present value of expected returns from holding a stock (dividends and price appreciation) equal to the current market value of that stock. The DCF method

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[19] The stock prices for UPC reflect the fact that UPC purchased SP on September 11, 1996. All figures for September are prorated.

[20] The AAR incorrectly computed the BNSF's market value and weight for the month of September (apparently by using a spreadsheet formula that was necessary to account for the BNSF merger during September 1995). As a result, BNSF's and the composite average market value were reduced in AAR's calculation by almost $5 billion during September and by approximately $400 million for the yearly averages. In addition, we adjusted the AAR's figures for UPC downward by approximately $10 million for September, in light of our adjustment of the number of shares outstanding to account for the purchase of the SP on September 11. The AAR used the number of shares outstanding at the end of September.

considers two variables — dividend yield and expected growth in earnings per share.[21]

Dividend Yield

The AAR computed the 1996 average dividend yield for the composite group of railroads using the same method that it employed in past cost of capital determinations, *i.e.*, weighting each company's monthly dividend yield on the basis of its prorated share of the total market value for the composite for each day during that month based on daily closing prices. The AAR developed a composite dividend yield of 2.36% for 1996. This figure is 0.16 of a percentage point lower than the 1995 dividend yield (2.52%). Computations of the dividend yield are shown in Table 10 in the Appendix.

Growth Rate

The AAR used the growth rate forecasts published monthly by the Institutional Brokers Estimate System (IBES) throughout 1996.[22] The AAR developed growth rates for each of the railroads that make up the composite by averaging the IBES forecasts for that railroad. It then weighted each railroad's

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[21] In *Railroad Cost of Capital - 1982*, 367 I.C.C. 662 (1983) *(Cost 82)*, the ICC developed the following DCF formula:

$K = [D_{(O)} \times (1 + g/2)/P_{(O)}] + g$, where:
K = cost of common equity
$D_{(O)}$ = annual dividend
$P_{(O)}$ = current stock price
g = expected growth rate

This formula assumes that, at the start of the year, an investor would require a return on equity (K) equal to $[D_{(O)}/P_{(O)}] + g$, where $D_{(O)}/P_{(O)}$ represents the average dividend yield expected for the year and g represents an estimate of the expected growth rate. At the end of the year, the investor would be concerned with projected returns for the following year and would require a K equal to $[D_{(O)} \times (1+g)/P_{(O)}] + g$, which would allow for dividend growth for the following year. The average of these two formulas produces this DCF formula.

[22] As has been the case since the findings in *Railroad Cost of Capital - 1987*, 4 I.C.C.2d 621 (1988), we have relied on the use of consensus analyst 5-year earnings per-share growth rate data published by IBES to develop the growth rate estimates used in the DCF approach. IBES data include growth rate estimates from essentially all major brokerage firms.

growth rate according to its prorated share of the market value of the total railroad composite to arrive at a single growth rate. The AAR concluded that this composite growth rate was 11.36%, based on a truncated average of the forecasts.[23] Our calculations produce a fractionally higher growth rate of 11.37%. The 11.37% growth rate is 0.68 of a percentage point higher than the 10.69% growth rate developed in the 1995 cost of capital decision. The growth rate calculations are shown in Tables 11 (truncated) and 12 (nontruncated) of the Appendix.

Consistent with previous cost of capital determinations, we conclude that the truncated IBES growth rate should be used because there can be wide variations between the highest and lowest estimates. Thus, we have used our recalculated truncated growth rate equal to 11.37% for the DCF model to determine the 1996 cost of common equity capital.

Flotation Costs

As is true with the issuance of new debt instruments, flotation costs are also incurred with the issuance of new equity securities. In *Adequacy of Railroad Revenue (1979 Determination)*, 363 I.C.C. 344, 352 (1979), the ICC concluded that flotation costs for equity capital should not be considered unless new equity had, in fact, been issued. This conclusion has been reaffirmed in subsequent cost of capital decisions. Because no railroad issued any new common equity capital during 1996, no flotation cost factor has been included in the DCF formula.[24]

Conclusion - Cost of Common Equity Capital

Using a truncated average IBES growth rate (g) of 11.36%, a dividend yield ($D_{(0)}/P_{(0)}$) of 2.36%, and the Board's DCF formula, the AAR determined the cost of common equity for 1996 to be 13.85%. Using our slightly reduced recalculated truncated average growth rate, we determine that the 1996 cost of common equity using the DCF method is 13.86%, rounded to 13.9%. This

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[23] IBES provides a simple average, the highest forecast, and the lowest forecast for each railroad. The AAR excluded the highest and lowest forecasts to arrive at the truncated average. This is the same procedure that has been followed in previous cost of capital determinations.

[24] UPC issued stock in exchange for outstanding shares to the shareholders of SP. However, this exchange did not result in any flotation costs being incurred.

figure is 0.5 of a percentage point higher than the cost of common equity for 1995 (13.4%).[25]

PREFERRED EQUITY

Preferred equity has some of the characteristics of debt and some of the characteristics of equity. Essentially, preferred issues are like common stocks in that they have no maturity dates and represent ownership in the company (usually with no voting rights attached). They are like debt in that they usually have fixed dividend payments (akin to interest payments). The railroads' total market value weight of preferred stock relative to common stock and debt has been declining and represents only slightly more than 1% of the total capitalization for the composite group.

The AAR examined the three preferred stock issues of the sample railroads[26] and determined their cost using the dividend yield method (dividends divided by market price). The AAR computed the market value of preferred stock by multiplying the average quarterly price for each issue by the number of shares outstanding during the quarter. This is the same procedure used in previous cost-of-capital determinations. The AAR computed the market value of preferred stock during 1996 to be $991 million and the cost of preferred equity for 1996 to be 2.34%. This figure is approximately 0.89 of a percentage point lower than the 1995 figure (3.23%).

We have examined the AAR's evidence and have determined that its figures are correct. We therefore conclude that during 1996 the market value of preferred stock was $991.0 million and its cost was 2.34%. Table 14 in the Appendix contains the calculations of the cost of preferred equity.

CAPITAL STRUCTURE MIX

In *Cost 82, supra*, the ICC decided to use a market-value based capital structure mix to determine the cost of capital. This is the eleventh proceeding that includes the market value of preferred equity as well as the market value of

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[25] *See,* Table 13 in the Appendix for our calculation of the cost of equity.

[26] The three railroads with preferred stock are CRC, KCS, and NSC. Over 95% of the total market value of preferred stock is attributable to the CRC issue.

debt and common equity. Our computations of market values and the capital structure mix for 1996 are shown in Table 15 in the Appendix.

The market value of bonds, preferred stock, and common equity for 1996 was $76,186.4 million. This figure is substantially higher than the market value for 1995 ($61,629.4 million).[27] The percentage share of common equity declined from 72.8% in 1995 to 70.7% in 1996. The percentage share of debt increased from 26.0% in 1995 to 28.0% in 1996. The percentage share of preferred equity increased from 1.2% in 1995 to 1.3% in 1996.

COMPOSITE COST OF CAPITAL

Based on the evidence furnished in the record, and our adjustments due to rounding and other factors, we conclude that the 1996 composite cost of capital for the railroad industry, as set forth in Table 16 in the Appendix, was 11.9%.[28] The procedure used by the AAR to develop the composite cost of capital is consistent with the Statement of Principle established by the Railroad Accounting Principles Board: "Cost of capital shall be a weighted average computed using proportions of debt and equity as determined by their market values and current market rates."[29] The 1996 cost of capital is 0.2 percentage point higher than the 1995 cost of capital (11.7%).

CONCLUSIONS

We find that for 1996:

1. The current cost of railroad debt equals 7.4%.
2. The cost of common equity equals 13.9%.
3. The cost of preferred equity equals 2.3%.
4. The capital structure mix of the railroads equals 28.0% debt, 70.7% common equity, and 1.3% preferred equity.
5. The composite railroad industry cost of capital equals 11.9%.

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[27] The increase in market value is the result of new debt being assumed by several railroads and a sharp increase in stock market prices (almost $9 billion) resulting from the bull market during 1996 and, to a lesser extent, the sharp increase in CRC stock due to the proposed merger with CSX and/or NSC.

[28] This is essentially the same as the 11.85% figure developed by the AAR. Any differences are due to our small adjustments to the overall market value of debt and rounding.

[29] Railroad Accounting Principles Board *Final Report*, Vol. 1, (1987).

Environmental and Energy Considerations

We conclude that this action will not significantly affect either the quality of the human environment or the conservation of energy resources.

Regulatory Flexibility Analysis

Pursuant to 5 U.S.C. 605(b), we conclude that our action in this proceeding will not have a significant economic impact on a substantial number of small entities. The purpose and effect of the action are merely to update the annual railroad industry cost of capital finding. No new reporting or other regulatory requirements are imposed, directly or indirectly, on small entities.

It is ordered:

1. This decision is effective on July 16, 1997.
2. This proceeding is discontinued.

By the Board, Chairman Morgan and Vice Chairman Owen.

APPENDIX

Table 1

Traded & Untraded Bonds / Market Value By Company

Railroad	Traded Bonds	Untraded Bonds	Total Bonds	Market Value Traded Bonds ($000)	Market Value All Bonds ($000)	% Mkt Val. Traded to All Bonds
BNSF[1]	17	11	28	$2,037.92	$2,645.54	77.0%
CRC	3	5	8	1,217.67	1,289.38	94.4%
CSX[2]	5	10	15	1,091.91	1,317.93	82.9%
IC[3]	3	9	12	327.63	597.40	54.8%
KCS	5	3	8	494.47	570.70	86.6%
NSC[4]	5	5	10	762.45	829.81	91.9%
UPC[5]	15	35	50	2,833.17	4,706.72	60.2%
TOTAL	53	80	133	$8,765.20	$11,957.48	73.3%

[1] The BNSF figures contain 2 new issues ($375 million) included as traded in 1996.
[2] The CSX figures exclude 2 port authority revenue bonds, with a market value of $46.8 million, that were counted twice in the AAR's submission.
[3] The IC figures contain 1 new issue ($125 million) included as traded in 1996. They also correct for the AAR's miscalculation discussed in footnote 8.
[4] The NSC figures include 2 new issues ($200 million) included as traded in 1996. They also make a downward adjustment for a double-count of 3 bonds with a value of $1.7 million.
[5] The UPC figures include 8 SP bonds with a market value of $129.451 million, adjusted to account for UP's acquisition of SP on September 11, 1996 by using a factor of 30.8%, for a net market value of $39.871 million.

Table 2

Calculation of Value and Cost of Bonds, Notes, & Debentures

Railroad	Number of Traded Issues	Market Value ($000)	Current Cost	Weighted Cost
BNSF	17	$2,037.92	7.36%	1.71%
CRC	3	1,217.67	7.35%	1.02%
CSX	5	1,091.91	7.15%	0.89%
IC	3	327.63	7.32%	0.27%
KCS	5	494.47	7.37%	0.42%
NSC	5	762.45	7.18%	0.62%
UPC	15	2,833.17	7.30%	2.36%
Composite	53	$8,765.20		7.30%

Table 3

Calculation of Value and Cost of Equipment Trust Certificates

Railroad	When Issued	No. of Issues	Market Value ($000)	Yield %	Weighted $ Yield ($000)
BNSF	Pre-1996	15	$478,233	6.594%	$31,534.7
	New in 1996	1	33,525	7.211%	2,417.5
	Total	16	511,758	6.634%	33,952.2
CRC	Pre 1996	2	120,455	6.601%	7,951.2
	New in 1996	1	25,908	7.063%	1,829.9
	Total	3	146,363	6.683%	9,781.1
CSX	Pre-1996	16	326,381	6.606%	21,561.7
	New in 1996	2	113,000	7.000%	7,910.5
	Total	18	439,381	6.708%	29,472.2
IC	Pre-1996	0	0	0.000%	0
KCS	Pre-1996	4	98,431	6.564%	6,461.0
NSC	Pre-1996	18	412,250	6.407%	26,412.9
SP [1]	Pre-1996	8	81,481	6.546%	5,333.8
UPC	Pre-1996	9	367,868	6.543%	24,070
	New in 1996	2	152,025	6.803%	10,343
	Total	11	519,893	6.619%	34,413
COMPOSITE	Pre-1996	72	1,885,099	6.542%	123,325
	New in 1996	6	324,458	6.935%	22,501
	Total	78	2,209,557	6.600%	145,826

[1] The AAR showed a market value of $264.549 million for SP ETCs. Our calculations reduce this amount to $81.481 million to account for the UP's acquisition of SP on September 11, 1996 by using the same factor used to develop bond cost (30.8%). We have also adjusted current interest cost by the same factor, reducing it from the AAR's value of $17.317 million to $5.334 million.

Table 4

Calculation of Value and Cost of Conditional Sales Agreements

Railroad	Number of Issues	Market Value ($000)	Current Cost	Weighted Cost
CSX	2	2,496.5	6.990%	2.88%
NSC	1	3,568.8	6.506%	3.83%
COMPOSITE	3	$6,065.3		6.705%

Table 5

Calculation of Value of Capitalized Leases & Miscellaneous Debt

Railroad	Capitalized Leases ($000)	Miscellaneous Debt ($000)	Total Other Debt ($000)
BNSF	$399,578	$1,117,843	1,517,421
CRC	403,044	280,544	683,588
CSX	108,857	2,532,049	2,640,906
IC	27,100	7,800	34,900
KCS	5,122	0	5,122
NSC	196,975	500,000	696,975
UPC	297,880	1,043,576	1,341,456
SP [1]	254,416	0	254,416
Total	$1,692,972	$5,481,812	$7,174,784

[1] SP had capitalized leases equal to $826,027 thousand. These were adjusted by the 30.8% factor used elsewhere in this decision to account for SP's purchase by UPC on September 11, 1996.

Table 6

Calculation of 1996 Market Value of Debt

Type of Debt	Market Value of Debt (000)	Percentage of Total Market Value (Excluding Miscellaneous Debt)
Bonds, Notes, & Debentures	$11,957,476	84.37%
ETCs	2,209,557	15.59%
CSAs	6,065	0.04%
Subtotal	14,173,098	100.00%
Capitalized Leases/Miscellaneous Debt	7,174,784	NA
Total Market Value of Debt	$21,347,882	NA

Table 7

Calculation of Flotation Cost For Debt

Type of Debt	Market Weight	Flotation Cost	Weighted Average Flotation Cost
Bonds, Notes, &Debentures	84.37%	0.16%	0.135%
ETCs	15.59%	0.13%	0.020%
CSAs	0.04%	0.13%	0.000%
Total	100.00%		0.155%

Table 8

Calculation of 1996 Cost of Debt

Type of Debt	Percentage of Total Market Value (Excludes Miscellaneous Debt)	Debt Cost	Weighted Debt Cost (Excluding Miscellaneous Debt)
Bonds, Notes, & Debentures	84.37%	7.30%	6.16%
ETCs	15.59%	6.60%	1.03%
CSAs	0.04%	6.71%	0.00%
Subtotal	100.00%	-----	7.19%
Flotation Cost	-----	-----	0.155%
Weighted Average Cost of Debt	-----	-----	7.35%

Table 9

Calculation of Market Value and Weights of Common Equity

Railroad	Average Market Value (000)	Average Market Weight
BNSF [1]	**$12,602,861**	**23.40**
CRC	**6,154,839**	**11.43**
CSX	**10,121,660**	**18.80**
IC	**1,721,573**	**3.20**
KCS	**1,695,665**	**3.15**
NSC	**10,774,837**	**20.01**
UPC [2]	**10,776,090**	**20.01**
COMPOSITE	**$53,847,525.0**	**100.00%**

[1] The AAR incorrectly computed the BNSF's market value and weight for the month of September (apparently by using a spreadsheet formula that was necessary to account for the BNSF merger during September 1995). As a result, BNSF's and the composite average market value were reduced by almost $5 billion during September and by approximately $400 million for the yearly averages. Our recomputed figures are shown in the above table.

[2] The figure above include a downward adjustment from the AAR's figures of approximately $10 million for the UPC during September, in light of our adjustment of the number of shares outstanding to account for the purchase of the SP on September 11. The AAR used the number of shares outstanding at the end of September. The impact on the yearly average figures shown above is small, slightly over $800 thousand.

Table 10

Calculation of Dividend Yields for Common Equity

(Monthly Averages)

Month	Composite Average
January	2.46%
February	2.42%
March	2.38%
April	2.39%
May	2.31%
June	2.38%
July	2.43%
August	2.37%
September	2.38%
October	2.30%
November	2.23%
December	2.21%
Average For Year	2.36%

Table 11

Calculation of Truncated Growth Rates

Railroad	Average Weight In Composite	Truncated Average Growth Rate	Contribution To Truncated Average
BNSF	23.40%	12.99%	3.04%
CRC	11.43%	10.84%	1.24%
CSX	18.80%	11.73%	2.21%
IC	3.20%	12.69%	0.41%
KCS	3.15%	13.04%	0.41%
NSC	20.01%	9.71%	1.94%
UPC	20.01%	10.61%	2.12%
COMPOSITE	100.00%		11.37%

Table 12

Calculation of Nontruncated Growth Rates

Railroad	Average Weight In Composite	Nontruncated Average Growth Rate	Contribution To Nontruncated Average
BNSF	23.40%	12.70%	2.97%
CRC	11.43%	10.73%	1.23%
CSX	18.80%	11.56%	2.17%
IC	3.20%	12.61%	0.40%
KCS	3.15%	14.47%	0.46%
NSC	20.01%	9.80%	1.96%
UPC	20.01%	10.62%	2.13%
COMPOSITE	100.00%		11.32%

Table 13

Computation of the Cost of Common Equity

Dividend Yield	**2.36%**	
Dividend Yield Times 1+½ Growth Rate	**2.36% times 1.05685**	**2.49%**
Growth Rate		**11.37%**
Cost of Equity		**13.86%**
ROUNDED COST OF EQUITY		**13.9%**

Table 14

Computation of Cost & Market Value of Preferred Stock

Railroad	Div $	Value Per Share	Div. Yield	Shares (000)	Market Value (000)	Market Weight	Weighted Yield
CRC	2.16	$99.75	2.17%	9,504.6	$948,082	95.7%	2.07%
KCS	1.00	17.10	5.85%	242.2	4,142	0.4%	0.02%
NSC	2.60	41.21	6.31%	941.5	38,800	3.9%	0.25%
COMPOSITE					$991,024	100.0%	2.34%

Table 15

Computation of Capital Structure Mix

Type of Capital	Market Value (000)	Weight
Debt (Including Capitalized Leases and Miscellaneous Debt)	$21,347,882	28.02%
Preferred Equity	991,023	1.30%
Common Equity	53,847,525	70.68%
TOTAL	$76,186,430	100.00%

Table 16

Cost of Capital Computation

Type of Capital	Cost (Rounded)	Weight (Rounded)	Weighted Average
Long-Term Debt	7.4%	28.0%	2.07%
Preferred Equity	2.3%	1.3%	0.03%
Common Equity	13.9%	70.7%	9.75%
COMPOSITE COST OF CAPITAL	[redacted]	100.0%	11.85%
ROUNDED			11.90%