

ENTERED
Office of Proceedings

220346

SEP 27 2007

BEFORE THE
SURFACE TRANSPORTATION BOARD

Part of
Public Record



In the Matter of:

METHODOLOGY TO BE EMPLOYED
IN DETERMINING THE RAILROAD
INDUSTRY COST OF CAPITAL

STB Ex Parte No. 664

OPENING COMMENTS OF THE WESTERN COAL TRAFFIC LEAGUE

WESTERN COAL TRAFFIC LEAGUE

Of Counsel:

Slover & Loftus
1224 Seventeenth Street, N.W.
Washington, D.C. 20036
(202) 347-7170

William L. Slover
C. Michael Loftus
Robert D. Rosenberg
Slover & Loftus
1224 Seventeenth Street, N.W.
Washington, D.C. 20036
(202) 347-7170

Dated: September 27, 2007

Its Attorneys

TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION AND SUMMARY	1
II. THE BOARD'S PROPOSAL TO SWITCH FROM DCF TO CAPM IS SOUND	4
III. THE NPR'S PROPOSED IMPLEMENTATION OF CAPM IS REASONABLE	4
A. Risk-Free Rate of Return (Length of Treasury Bond)	5
B. Market Equity Risk Premium	6
C. Beta Measurement	7
D. Regressing With or Without an Intercept	9
IV. PROPER WEIGHTING OF RAILROAD DEBT AND EQUITY	10
V. PROPER MEASUREMENT OF THE COC WILL NOT IMPAIR THE RAILROADS' ABILITY TO RAISE CAPITAL OR ATTRACT INVESTMENT	13
VI. CONCLUSION	14

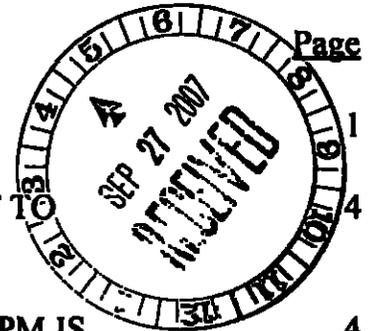


TABLE OF EXHIBITS

	<u>Exhibit No.</u>
List of Western Coal Traffic League Members	A
Verified Statement of Thomas D. Crowley and Daniel L. Fapp	B
Verified Statement of Dr James E. Hodder	C

BEFORE THE
SURFACE TRANSPORTATION BOARD

In the Matter of:)

METHODOLOGY TO BE EMPLOYED)
IN DETERMINING THE RAILROAD)
INDUSTRY COST OF CAPITAL)

STB Ex Parte No. 664

OPENING COMMENTS OF THE WESTERN COAL TRAFFIC LEAGUE

The Western Coal Traffic League (“WCTL” or “League”)¹ hereby submits its comments in response to the Notice of Proposed Rulemaking (“NPR” or “Notice”) that the Surface Transportation Board (“STB” or “Board”) originally served in the above-captioned proceeding on August 14, 2007, and then corrected on August 20, 2007.

I. INTRODUCTION AND SUMMARY

WCTL strongly supports the proposed shift from the single-stage Discounted Cash Flow (“DCF”) model to the Capital Asset Pricing Model (“CAPM”) for calculating the Cost of Equity (“COE”) component of the railroad industry Cost of Capital (“COC”). The NPR correctly finds that the “move away from the current, simplistic DCF model” is “a change the record compels,” on the basis of factors that WCTL previously noted in comments on the Advance Notice of Proposed Rulemaking (“ANPR”) in this docket and the 2005 and 2006 cost of capital proceedings. Those

¹WCTL is a voluntary association, whose regular membership consists entirely of shippers of coal mined west of the Mississippi River that is transported by rail. WCTL members presently ship and receive in excess of 140 million tons of coal by rail each year. A list of WCTL’s members is attached as Exhibit A.

factors include the unreasonableness of the “assumption that the 5-year growth rate provided by the AAR will remain constant forever,” the progress in modern finance practices, and especially the erosion of support for DCF and the prevalence of CAPM. NPR at 4-7.

The STB’s proposed implementation of CAPM is reasonable, especially in opting for a rather straightforward or “plain vanilla” version of CAPM to be applied to the railroad industry. The choice of inputs, such as the periods for measuring beta and calculating the market equity risk premium, should promote stability in the calculation. The Board’s self-derivation of the various inputs promotes openness and transparency.²

WCTL does recommend calculating the multi-carrier average beta by using carrier-specific unlevered betas weighted according to each railroad’s market capitalization and then applying (levering) that average beta to the intended industry capital structure. Averaging the levered betas directly introduces potential for distortion.

WCTL strongly opposes the suggestion that an assumed beta of 1.0 be utilized, as there is no trend or data that supports the assumption.

²WCTL would respectfully suggest, however, that the STB utilize some source of data other than the Center for Research in Security Prices (CRSP®) of the Graduate School of Business of The University of Chicago (“Chicago”). Chicago imposes unusually stringent confidentiality restrictions. Those restrictions prevent parties from including the actual data in their workpapers and force those that wish to review the STB’s workpapers to procure the data on their own without then being able to resubmit it. There is no reason to think that Chicago data differs significantly from that available from other sources. WCTL suggests that openness and transparency would be better achieved by utilizing some other source such as the data publicly available from the Saint Louis branch of the Federal Reserve Bank at <http://research.stlouisfed.org/fred2/>.

CAPM is far superior to DCF because CAPM explicitly considers the impact of risk and inflation. *See, e.g., FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 603 (1944) (“the return to the equity owner should be commensurate with returns on investments in other enterprises having corresponding risks”). Nonetheless, the STB should recognize that virtually all models can cease to provide realistic results under certain conditions, and WCTL recommends that the STB not abandon its “common sense” in its use of any COC model. In particular, if the railroad betas were to exceed 1.0 for several years, further investigation would be in order to determine if the values reflected industry risk or instead reflected the exercise of market power that the STB is supposed to regulate.

WCTL does not believe that the changes in the COC proposed by the NPR will impair the railroad industry’s ability to raise needed capital. Evidence WCTL submitted on July 28, 2007, demonstrates that the railroads’ recent influx of incremental dollars has gone more to stockholders than to capital expenditures. The railroads have ample ability to raise capital through relatively low-cost debt.

WCTL continues to believe that there should be some adjustment for the excess equity in the railroads’ capital structure and operating leases should be treated as debt. The STB should not be bound by generally accepted accounting principles (“GAAP”) in this area, especially as the current cost of capital is not a GAAP concept in the first place. But the acceptance of the railroads’ capital structure is contrary to 49 USC § 10704(a)(2).

WCTL's comments include verified statements from: (1) Thomas D. Crowley and Daniel L. Fapp ("Crowley/Fapp VS") of L.E. Peabody & Associates, Inc., addressing specific CAPM implementation matters in considerable detail (Exhibit B); and (2) Dr. James E. Hodder ("Hodder VS"), briefly addressing some DCF and CAPM matters and expressing support for the Crowley/Fapp analysis (Exhibit C).

II. THE BOARD'S PROPOSAL TO SWITCH FROM DCF TO CAPM IS SOUND

As explained above, the NPR's proposal to switch from DCF to CAPM for calculating the railroad industry COE is sound and reasonable. Crowley/Fapp VS at 4-6; Hodder VS at 2. The DCF method is not producing sound, plausible, or even sustainable results under the present conditions. In contrast, CAPM enjoys broad support and is appropriate for the STB's regulatory purposes because it directly reflects relative risk within the railroad industry as well as inflation. Moreover, the results are in keeping with the cost of capital that is perceived by the financial community. Continued use of the DCF approach is no longer tenable. Furthermore, no superior alternative to CAPM was identified in response to the ANPR previously served in this proceeding.

Adoption of CAPM is fully reasonable under the circumstances.

III. THE NPR'S PROPOSED IMPLEMENTATION OF CAPM IS REASONABLE

As all recognize, implementing a CAPM approach involves a choice among inputs, *i.e.* the selection of the risk-free rate of return, the calculation of the general market return, the derivation of beta (over what period of time and using which mathematical method), and whether to include additional premiums in the analysis.

Moreover, there are trade-offs in the way that these various determinations can be made. In particular, one can utilize a respected, experienced off-the-shelf provider of beta and risk premium data, such as Ibbotson Associates, which WCTL utilized in its prior submissions, in large part to minimize controversy. Or, one can, as the NPR does, derive the inputs directly from raw data, thereby providing an open and transparent calculation. Hodder at 2.

The NPR's approach is reasonable. The COE calculation is a significant one, and there is value in having it done in an open and transparent manner (particularly as contrasted with the use of entirely proprietary, and non-transparent forecasts of earnings growth under the DCF method). Indeed, one advantage of having an open and transparent calculation is that it makes it possible to address the reasonableness of the individual inputs. Those individual inputs are discussed next.

A. Risk-Free Rate of Return (Length of Treasury Bond)

There appears to be general consensus that the risk-free rate of return should be determined using a relatively long-term Treasury Bond. Crowley/Fapp VS at 7.

WCTL witnesses have previously used the 20-year bond, but the NPR proposes to use the 10-year bond, presumably because it is the longest that has been continuously issued, thus facilitating the calculation of the COE as far back as 1997. While some might prefer the use of a longer-term security such as the 20-year bond, the difference between the 10- and 20-year bond is generally fairly small, *e.g.*, the average spread between the 10- and 20-year Treasury bonds over the last 50 years has been only 12.5 basis points or 0.125%. Crowley/Fapp VS at 8; Hodder VS at 3. In any event, the

selection of the risk-free rate of return does not appear to be, and should not be, an area of significant controversy.

It should be noted that the risk-free rate of return represents a prospective expectation, *i.e.*, it represents what investors are willing to pay today for a riskless return in the future. Moreover, it reflects the return expected by the market as a whole, as confirmed by actual investment decisions, as opposed to the prospective guess of an analyst (as in the development of projections utilized under the DCF approach).

B. Market Equity Risk Premium

The NPR proposes to calculate the market equity risk premium based on a 50-year average of NYSE returns. This approach appears generally reasonable.

WCTL's witnesses previously used the S&P 500 to determine the market equity risk premium. However, there is a high correlation between the NYSE and the S&P 500, and the choice between the two should have little influence on the outcome of the CAPM calculation. Crowley/Fapp VS at 9-10.

The NPR proposes use of a 50-year average to determine the equity risk premium, whereas Crowley/Fapp used an 80-year average (1926-2005) and Dr. Hodder used a 20-year average (1986-2005). The STB's 50-year average yields a lower equity risk premium, and the difference in equity risk premium accounts for most of the difference among the three estimates. As Dr. Hodder noted in his Verified Statement submitted in response to the ANPR at 15, there is significant evidence that the equity risk premium has been decreasing over time. However, use of a shorter period may result in greater volatility in the figure, which is not necessarily consistent with the calculation of a

long-term cost of capital of the STB's regulatory scheme generally. Accordingly, the proposed 50-year period appears reasonable. In no event should the average be shorter than 20 years because of the possibility that short-term, transitory factors will play too prominent a role in the average. Crowley/Fapp VS at 10-11.

While not explicitly discussed in the NPR, WCTL believes that the average, whatever its length, should be a rolling one, so that more recent data is considered, and older data is discarded. As explained in Crowley/Fapp VS at 11-14 and Hodder VS at 3, failing to adjust the averaging period is apt to introduce distortions into the equity risk premium.

C. Beta Measurement

The NPR proposes to develop betas using data for a 10-year period, but requested comment on 25-year and 5-year betas.

WCTL believes that the 10-year period is reasonable, but a measurement period of as short as 5 years, which is the period used by Ibbotson and some other notable providers (Value Line, Standard & Poor's, and Merrill Lynch), would also be reasonable. WCTL does not believe that a period longer than 10 years is appropriate, and certainly disagrees with a period as long as 25 years. Crowley/Fapp VS at 16-19; Hodder VS at 3.

A period any shorter than 5 years is likely to introduce excessive volatility and noise as values may fluctuate significantly from year-to-year. A 10-year average should be more stable, which is helpful for determining long-term revenue adequacy and avoiding sharp fluctuations, while still being reasonably reflective of the current state of the railroad industry. In contrast, a 25-year average would include the period shortly after

enactment of the Staggers Railroad Act of 1980, when the railroad industry was quite different from today. As with the equity risk premium, a rolling average should be utilized so more recent data can be considered and older data discarded. Crowley/Fapp VS at 16-19.

WCTL strongly disagrees with the notion that the beta should be set at 1.0. The railroad industry is not new, even in its current deregulated incarnation, and there is substantial evidence that its beta is below 1.0 and that it is falling and not rising. While using a beta of 1.0 may make sense for payment processing services,³ there are a number of distinct factors that indicate that the railroads should have a beta below 1.0. Crowley/Fapp VS at 19-20. In particular, the railroads are, in significant part, monopolies that do not face competition, at least as to their most profitable traffic; indeed, that is the premise on which they are regulated, and that premise provides the impetus for calculating their cost of capital in the first place. In addition, they are able to pass through increases in inputs such as fuel, and evidence indicates that fuel price increases actually help the railroads to capture additional business from trucking competitors. There also is support for the proposition that the railroads can make money by growing their revenues during growth times and by operating more efficiently during leaner times.

An additional question is whether the STB is suggesting the levered or unlevered beta should be set at 1.0. Even a levered beta still seems to be above the

³The NPR cites the testimony of the Federal Reserve Bank ("Fed") at the February 15, 2007 hearing. The Fed went out of its way to explain that its approach was specific to its context. The Fed faces competition, or potential competition, for its services, and the Fed also does not raise capital as commercial enterprises do. These are distinguishing characteristics from investor-owned railroads.

observed betas calculated by the STB. Furthermore, there is the potential for the railroads to game the approach by reducing their leverage and thereby lowering their beta, creating an actual COE and COC lower than those calculated by the STB

The NPR at 6-7 notes the possibility of including additional variables in the analysis, but indicates that such modifications add more in the way of increased complexity than they contribute in precision. WCTL agrees with this assessment and adds further that there has been no demonstration that such modifications would result in a more accurate calculation for the covered railroads specifically. Hodder VS at 2. Moreover, the proper place to have presented such alternatives would have been in response to the STB's ANPR. At that stage, however, the railroad industry focused on attempting to defend the DCF approach, albeit without justifying the critical underlying assumption regarding the sustainability of the future growth rate. In any event, the railroads did not present any sort of constructive alternative. It is thus appropriate that the STB's proposal should focus on CAPM.

D. Regressing With or Without an Intercept

As explained in Crowley/Fapp VS at 22-23, WCTL recommends performing the beta regression with an intercept term or "alpha." WCTL is unaware of any evidence that suggests that the presence of an intercept demonstrates a sustained bias or inaccuracy in the derivation of railroad industry betas. At the same time, ignoring the intercept forces the regression to go through an artificial point, which then alters the direction of the slope and constitutes a distortion.

IV. PROPER WEIGHTING OF RAILROAD DEBT AND EQUITY

The NPR at 8 rejects WCTL's proposals (a) to adjust the debt portion of capital to reflect the capitalization of operating leases on the grounds that it is inconsistent with GAAP, and (b) to use a multiple-year average in determining the capital structure because "[m]arket values are not artificial."

The Board's reasoning is incomplete, inadequate, and even contradictory in various respects. In particular, it was reached without consideration of the evidence that WCTL submitted concerning the 2006 COC, where WCTL demonstrated that: (a) the current COC generally, and its market value specifically, are not GAAP concepts in the first place, and it is thus inappropriate and nonsensical to rely on GAAP to determine how to calculate the non-GAAP COC; (b) there is now ample evidence that the market, and even the railroads themselves, treat operating leases as debt for market valuation purposes; and (c) there is now ample evidence that the financial community, and in various instances the railroads themselves, consider the railroads to be underleveraged at the present time and able to increase their market or enterprise value by taking on additional debt.

The STB's two cited rationales for rejecting WCTL's position, GAAP and market valuation, thus actually contradict each other,⁴ further confirming the

⁴There are risks inherent in using accounting data in financial analysis. See, e.g., Richard A. Brealey, Stewart C. Myers, and Alan J. Marcus, *Principles of Corporate Finance* (4th ed. 1991), at 275 ("The dangers in judging profitability by accounting measures are clear"), at 278 ("Unfortunately book income and ROI are often seriously biased measures of true profitability and thus should not be directly compared to the opportunity cost of capital.").

inappropriateness of relying on GAAP to determine the COC generally or to determine whether operating leases should be treated as debt in reviewing the capital structure for purposes of determining the COC. To the extent the STB is trying to measure investor expectations, it should not ignore the fact that the investment community, and the railroads themselves, view operating leases as debt.

Furthermore, the STB's blithe acceptance of the nominal capital structure does not comply with Congress's directive in 49 USC § 10704(a)(2) to determine revenue adequacy, which the STB and its predecessor have chosen to define in reference to the current COC, "under honest, economical, and efficient management," including "a reasonable level of debt."⁵ "[H]onest, economical, and efficient management" should include consideration of whether the railroads have effectively increased their perceived costs by failing to include in their capital structure "a reasonable level of debt." Indeed, other regulatory authorities routinely determine the appropriate capital structure (as opposed to the capital structure in place) before proceeding to determine the cost of the individual capital components. The STB's practice of automatically accepting whatever capital structure the railroads happen to have in place is not in keeping with the statute or sound regulatory practice generally.

⁵WCTL adds that utilizing a multi-year average of debt-equity ratios would not ignore market values. Instead, each year's market value would be fully recognized over a period of time. The value of utilizing an average is that it smooths out changes in individual years and presents a normalized value. Indeed, the STB uses multi-year averaging periods to achieve this objective in other contexts such as measuring productivity and costing railroad capital expenditures in various property accounts.

WCTL notes that the AAR first presented its claim regarding the supposed primacy of GAAP at the STB's public hearing, and thus WCTL's submission concerning the 2006 COC was its first opportunity to respond to those statements. Likewise, the NPR represents the first statement of the STB's apparent position. WCTL understands from the NPR that the STB did not take WCTL's 2006 COC submission into account. Accordingly, the STB should afford WCTL's views on this matter full and fair consideration.

WCTL's 2006 COC demonstrated that the use of levered betas tempers the significance of the capital structure for purposes of calculating the after-tax cost of capital. However, the STB's Uniform Railroad Costing System uses a pre-tax COC, *i.e.*, the cost of equity is adjusted by dividing by 1.0 minus the corporate marginal tax rate of 35%, which is the equivalent of increasing the cost of equity by 53.8%.

The railroads thus stand to benefit for regulatory costing purposes by increasing the portion of their capital that is classified as equity. In other words, they have an incentive to "game" their capital structure by increasing their equity-debt ratio. The STB should not allow a misplaced need to adhere to GAAP prevent it from recognizing and addressing this reality. As noted *supra*, 49 USC § 10704(a)(2) affords the STB ample authority – and, indeed, a statutory obligation – to consider whether the railroads have an appropriate capital structure. The STB should not abdicate that regulatory duty for the sake of GAAP, especially when the COC is not even a part of GAAP in the first place.

V. PROPER MEASUREMENT OF THE COC WILL NOT IMPAIR THE RAILROADS' ABILITY TO RAISE CAPITAL OR ATTRACT INVESTMENT

If past is prologue, the railroads, probably with some supporting statements from some elements of the investment community, will claim that the measures proposed in the NPR, or by shippers, will imperil the railroads' ability to raise capital or attract investment. They will likely add that the perceived capacity shortage makes the present a particularly inappropriate time to consider such changes.

Such claims are without foundation. Properly calculating the COC may (or may not) have some influence on stock prices,⁶ but sound economic regulation does not, and should not, guarantee that regulated entities can charge monopoly prices. Instead, the purpose of economic regulation is to limit the imposition of monopoly prices.

Calculating costs using an overstated COC does not further the goals of economic regulation. Furthermore, if the railroads are limited to achieving a rate of return commensurate with their COC, as opposed to extracting monopoly rents, they may find it in their interests to grow their earnings by increasing their volumes instead of their rates, which is one of the objectives that sound regulation of monopolies is supposed to accomplish.

Moreover, as WCTL demonstrated in its 2006 COC filing, the railroads have not raised capital by issuing stock to the public in many, many years. Instead, they have been using a substantial portion of their recent inflow of cash to buyback stock,

⁶Most railroad traffic is not subject to regulation. Moreover, there is good reason to question whether the modest regulation that remains in place is effective or even meaningful.

increase dividends, and to reduce long-term debt, rather than to expand capacity or increase capital expenditures.

Accordingly, the railroads have ample ability to increase their debt on attractive terms. A substantial portion of the investment community, and at least some of the railroads themselves, believe that the railroads will enhance their valuations by doing so. Some railroads are even in the process of increasing their debt in order to finance stock buybacks. Accordingly, there is no good reason to think that lowering the COE to an appropriate level will have an adverse impact on the railroads' ability to attract capital. Indeed, the available evidence indicates that the railroads' marginal COC is that of debt and not equity.

Proper calculation of the railroad industry COE, as proposed in the NPR, should have no adverse effect on the ability of the railroads to conduct their operations and obtain capital investment as needed on attractive terms.

VI. CONCLUSION

For the reasons stated above, WCTL calls upon the Board to fulfill its regulatory responsibilities and adopt its proposal to calculate the COE using the CAPM approach and not the DCF approach. The STB should also calculate the COE using an appropriate capital structure and not blithely accept the existing capital structure of the railroads, and the STB should treat operating leases as debt for that purpose.

Respectfully submitted,

WESTERN COAL TRAFFIC LEAGUE

Of Counsel:

Slover & Loftus
1224 Seventeenth Street, N.W.
Washington, D.C. 20036
(202) 347-7170

Dated: September 27, 2007

William L. Slover

C. Michael Loftus

Robert D. Rosenberg

Slover & Loftus

1224 Seventeenth Street, N.W.

Washington, D.C. 20036

(202) 347-7170

Its Attorneys



WESTERN COAL TRAFFIC LEAGUE MEMBERS

Alliant Energy
Ameren Energy Fuels and Services
Arizona Electric Power Cooperative, Inc.
CLECO Corporation
Austin Energy (City of Austin, Texas)
CPS Energy
Kansas City Power & Light Company
Lower Colorado River Authority
MidAmerican Energy Company
Minnesota Power
Nebraska Public Power District
Omaha Public Power District
Texas Municipal Power Agency
Western Farmers Electric Cooperative
Western Fuels Association, Inc.
Wisconsin Public Service Corporation
Xcel Energy

EXHIBIT B

**Verified Statement of Thomas D. Crowley
and Daniel L. Fapp**

I. INTRODUCTION

We are Thomas D Crowley and Daniel L Fapp We are economists and, respectively, the President and a Vice President of L E Peabody & Associates, Inc , an economic consulting firm that specializes in solving economic, transportation, marketing, and fuel supply problems Mr Crowley has spent most of his consulting career of over thirty-six (36) years evaluating fuel supply issues and railroad operations, including railroad costs, prices, financing, capacity and equipment planning issues His assignments in these matters were commissioned by railroads, producers, and shippers of different commodities A copy of his credentials is included as Exhibit No 1 to this verified statement ("VS")

Mr Fapp has been with L E Peabody & Associates, Inc since 1997 During this time, he has worked on numerous projects dealing with railroad operational and financial issues Prior to joining L E Peabody & Associates, Inc , Mr Fapp was employed by BHP Copper Inc in the role of Transportation Manager - Finance and Administration, and where he also served as an officer and Treasurer of the three BHP Copper Inc. subsidiary railroads, The San Manuel Arizona Railroad, the Magma Arizona Railroad and the BHP Nevada Railroad A copy of his credentials is included as Exhibit No 2 to this VS

Our consulting assignments regularly involve working with and determining various facets of railroad financial issues, including cost of capital determinations In these assignments, we have calculated railroad capital structures, market values, cost of railroad debt, cost of preferred railroad equity and common railroad equity We are also well acquainted with and have used the commonly accepted models for determining a firm's cost of equity, including the Discounted Cash Flow Model

("DCF"), Capital Asset Pricing Model ("CAPM"), Fama-French Three Factor Model and Arbitrage Pricing Model

We have developed railroad industry average cost of capital and company specific cost of capital for use in litigation and for use in general business management. For several clients, we have both individually and together determined the Going Concern Value ("GCV") of privately held railroads. Developing the GCV under the Income Based Methodology requires developing company specific costs of debt and equity for use in discounting future company cash flows. We have also developed cost of capital in order to capture the costs associated with shipper investment in railroad equipment and road property. Our findings regarding railroad cost of capital have been presented to U S District and State courts, the Interstate Commerce Commission, the Surface Transportation Board ("STB") and the Federal Railroad Administration.

We have been asked by Counsel for the Western Coal Traffic League ("WCTL") to provide comments on the STB's proposed methodology to estimate the railroad industry's cost of equity ("COE") as presented in STB Ex Parte No. 664 Methodology To Be Employed In Determining The Railroad Industry Cost Of Capital, served August 20, 2007 ("Ex Parte 664"). Specifically, WCTL has requested we comment on the following issues: (1) the proposed single-Beta Capital Asset Pricing Model ("CAPM"), (2) the proper term of U S Treasury instruments to use as a proxy for the risk-free rate of return, (3) the proposed use of New York Stock Exchange ("NYSE") data to develop equity risk premium estimates, (4) the appropriate time period in which to develop estimates of

railroad specific Beta, (5) the necessity of developing railroad Beta estimates on an annual basis, and
(6) the necessity of including an intercept term in the Beta estimate regression model

We present our testimony below under the following topical headings

- II Single-Beta CAPM
- III Risk Free Rates Of Return
- IV Equity Risk Premium
- V Beta Estimation

II. SINGLE-BETA CAPM

The STB has proposed adopting a single-Beta version of the CAPM as its methodology for estimating the railroad industry COE.^{1/} The CAPM calculates a firm's COE by comparing the company's risk profile to that of the market as a whole, and taking into consideration the risk-free rate of return. Mathematically, the following equation expresses the STB's proposed single-Beta CAPM

$$k = r_f + \beta(rp_m)$$

Where

- k = COE,
- r_f = Rate of return available on a risk-free security,
- β = The measure of systematic risk of a stock, relative to the market as a whole, and
- rp_m = The general equity risk premium for the market

The STB proposes to estimate the COE individually for each railroad company included in its study group, and to develop an industry-wide COE based on the weighted-average of the individual railroad COE weighted on equity market capitalization.^{2/}

We agree that the STB should replace its current Discounted Cash Flow ("DCF") methodology used to estimate the railroad industry COE with a CAPM approach. As Mr. Crowley detailed in his

^{1/} See Ex Parte 664 at 10

^{2/} Id.

Reply VS in STB Ex Parte No 558 (Sub-No 9), Railroad Industry Cost of Capital - 2005,^{3/} and the STB acknowledges in its Ex Parte 664 decision, the single-stage DCF model previously used by the STB is fatally flawed due to, among other reasons, its use of an assumed single perpetual growth rate ^{4/}

Some have argued that the DCF approach should not be completely discarded, but should be modified to use multiple growth rates instead of a single perpetual growth rate. These arguments are misguided. The STB has correctly stated that "multi-stage" DCF model approaches suffer from their own limitations, including lack of any theoretical justification for the assignment of multiple growth factors ^{5/}. The STB's observation is clearly supported in the academic literature. For example, Dr. Stewart Myers, the Gordon Y. Billard Professor of Finance at the Massachusetts Institute of Technology, states that

^{3/} See Exhibit B of the Reply Comments of the Western Coal Traffic League in STB Ex Parte No 558 (Sub-No 9), Railroad Industry Cost of Capital - 2005, filed with the STB April 28, 2006.

^{4/} See Ex Parte 664 at 4. This is not to infer that the perpetual growth rate in the STB's DCF model is the current model's only flaw. As discussed in Mr. Crowley's VS in Ex Parte No 558 (Sub-No 9), the model suffers from other defects as well.

^{5/} See Ex Parte 664 at 6.

It is very difficult to say which growth rate measure or variable-growth method is "correct" One is therefore left with unexplained differences which could have considerable economic significance

it proves that the strong simplifying assumptions of the DCF method are *not* satisfied in real life Second, DCF in practice is not one but many methods, depending on how growth is forecasted Each approach to forecasting growth seems plausible and no doubt "works" for some companies But in the end there is no general rule for choosing among them The DCF method at best requires a significant admixture of judgement At worst, it can be cherry-picked to "prove" an advocate's point ⁶

We agree that the single-Beta CAPM model proposed by the STB is an appropriate method for developing the railroad industry COE It provides a reasonable estimate of a company's COE, and is solidly grounded in financial theory and practice

⁶ See "Discounted Cash Flow Estimates of the Cost of Equity Capital - A Case Study," Myers, Stewart C, and Borucki, Lynda S, *Financial Markets, Institutions & Instruments*, Volume 3, Number 3, 9-45, 11 to 12 (emphasis in original)

III. RISK-FREE RATES OF RETURN

The choice of the risk-free rate of return is a major factor in developing CAPM. Analysts use the risk-free rate to develop Beta estimates, and to develop estimates of the equity risk premium. In addition, the risk-free rate is a direct input into the CAPM itself.

The STB has proposed using yield-to-maturity ("YTM") on 10-year Treasury Bonds ("T-Bonds") as its estimate of the risk-free rate.⁷ The STB stated that it chose the 10-Year T-Bond because it is the longest T-Bond continuously issued, because a large majority of analysts use T-Bonds with maturities of 10 years or longer in their analyses, and because the longer-term yield better matches the long-term nature of railroad investments.⁸

We agree that the STB should use a long-term T-Bond as its estimate of the risk-free rate of return. Some researchers believe that a short-term Treasury Bill ("T-Bill") is appropriate for use with the CAPM. They argue that the CAPM is inherently a one-period model of the risk and return on an asset, and that current short-term YTM on T-Bills are reasonable predictors of future short-term returns.⁹ However, the consensus opinion amongst analysts and researchers is that in developing the COE using the CAPM, one should use the YTM on long-term T-Bonds.¹⁰ This is because the longer-term to maturity of T-Bonds closely matches the assumed long-term nature of most investments, longer-term YTM in T-Bonds fluctuate less than short-term rates and are therefore

⁷ See Ex Parte 664 at 10.

⁸ Id.

⁹ See "Damodaran On Valuation: Security Analysis for Investment and Corporate Finance," Aswath Damodaran, John Wiley & Sons, Inc, 1994 ("Damodaran"), at 26.

¹⁰ See "Cost of Capital: Estimation and Applications," Shannon P. Pratt, John Wiley & Sons, 2002 ("Pratt"), at 60.

less likely to introduce unwarranted short-term distortions, and T-Bonds include the impact of projected inflation rates ¹¹

The STB's decision to use a 10-year T-Bond YTM differs from consensus opinion on the use of the YTM on 20-year T-Bonds ¹² However, analysis of 10 and 20-year T-Bond data indicates that the average spread on YTM for the 10 and 20-year T-Bonds for the last 50 years has only been 12.5 basis points, or 0.125% ¹³ This would infer that the use of a 10-year T-Bond will not produce a significant difference in the COE than would the use of a 20-year T-Bond

^{11/} Id and Damodaran at 26

^{12/} See Pratt at 60

^{13/} Derived based on data from CRSP US Stock and CRSP US Indices Databases and CRSP Monthly Treasury US Database Guide ©200707 Center for Research in Security Prices (CRSP®), Graduate School of Business, The University of Chicago ("CRSP Data")

IV. EQUITY RISK PREMIUM

By definition, the equity risk premium is the expected return of the stock market minus the expected return of a riskless bond ^{14/} From an investor's perspective, the equity risk premium is paramount. Since stocks are riskier than bonds, the equity risk premium must be large enough to induce risk-averse investors to purchase equity. The equity risk premium is also a key factor in the development and use of the CAPM. Analysts use the change in the equity risk premium over time in their regression models to develop Beta estimates. Additionally, analysts also use the historic average risk premium as a direct input into the CAPM to develop required rates of return on the asset being priced. In the instant proceeding, the STB proposes to develop equity risk premiums for both of these purposes.

As it stated in its Ex Parte 664 decision, the STB proposes to use monthly NYSE return data along with 10-year T-Bond data to develop its estimates of the monthly equity risk premium required in calculating railroad company specific Beta, and to develop the average equity risk premium for use in the CAPM ^{15/} We agree with the STB's use of average YTM in the 10-year T-Bonds as a surrogate for the risk-free rate as we indicated above. We also agree with the STB's selection of the NYSE as a surrogate for the equity market as a whole. The NYSE is the largest equity market in the world in terms of dollar volume, with a combined capitalization of its listed companies equaling \$25 trillion at the end of 2006 ^{16/} Additionally, the equity of all four railroads included in the STB's cost

^{14/} See "The Equity Risk Premium: Essays and Explorations," Goetzmann, William N. and Ibbotson, Roger G., Oxford University Press, 2006 ("Goetzmann and Ibbotson"), at 7. Also see Pratt at 60.

^{15/} See Ex Parte 664 at 10.

^{16/} See www.nysedata.com/nysedata/asp/factbook/printer_friendly.asp?mode=table&key=2213

of capital determination trade on the NYSE. It is common practice of Beta-estimation services to estimate the Beta of a company's equity relative to the index of the market in which the equity trades^{17/} Finally, many analysts use NYSE data as their surrogate for overall market returns, and NYSE index correlates almost perfectly with other broad market indexes such as the Standard & Poor's 500^{18/}

The STB solicited two comments related to equity risk premiums in its Ex Parte 664 decision. First, the STB seeks comments on the appropriate time period over which to estimate the historic equity risk premium^{19/} Second, the STB seeks comments on the appropriateness of using a fixed equity risk premium instead of calculating the equity risk premium annually^{20/} We address these two issues below.

A. TIME PERIOD

We believe the STB's proposed use of a 50-year historic period to develop the equity risk premium is appropriate. Shorter-term estimations face volatility problems, which may lead to illogical results^{21/} Many researchers believe that the inherent volatility of shorter-term averages creates too great a cost to overcome the advantages associated with getting more updated premium information^{22/}

^{17/} See Damodaran at 27

^{18/} See Pratt at 61 and 83, and "Best Practices in Estimating the Cost of Capital: Survey and Synthesis," Bruner, Robert F., Eades, Kenneth M., Harris, Robert S., and Higgins, Robert C., *Financial Practice and Education*, Spring/Summer 1996, 13-38, at 20 ("Best Practices")

^{19/} See Ex Parte 664 at 10

^{20/} Id.

^{21/} See Pratt at 63

^{22/} See "Estimating Equity Risk Premiums," Damodaran, Aswath, Stern School of Business, available in his website at <http://pages.stern.nyu.edu/~adamodar/> ("Damodaran Risk Premium")

In addition, the estimation of the equity risk premium seeks to determine the premium above a fairly valued market ^{23/} Developing shorter-term estimates could lead one to conclude the markets themselves are undervalued or overvalued at any particular time. This is not the information sought in the development of the equity risk premium, but rather the information desired is the development of the equilibrium position.

Analysts and researchers have not come to a consensus on the "correct" time period to estimate historic equity risk premiums, but do agree on the use of a long-run average. The STB's proposed use of a 50-year historic analysis meets this goal. While we would not object to a shorter time period than 50-years, the selected study period should not be less than 20 years. As indicated above, analyzing shorter time periods may lead to illogical conclusions.

**B. FIXED VS. ROLLING
AVERAGE CALCULATIONS**

The STB also seeks input into whether it should utilize a fixed or static equity risk premium in its development of the CAPM, or instead should calculate the equity risk premium annually.^{24/} While the STB does not explicitly state its proposed methodology in the Ex Parte 664 decision, we presume the STB intends to develop a rolling 50-year average equity risk premium.

We believe the STB should utilize a moving average in its calculation of the equity risk premium. We came to this position based upon the theoretical correctness of a changing equity risk premium and upon a doctrine of fairness to the parties involved.

^{23/} See Goetzmann and Ibbotson at 8

^{24/} See Ex Parte 664 at 10

The equity risk premium should change because the amount of risk the market will accept over time will change. Fundamentally, the equity risk premium is the price of risk, and will be set by supply and demand conditions. This means that the amount of risk available on the stock market is not likely to be constant because of continual issuances and repurchases of stock, changes in leverage, and changes in underlying business conditions ^{25/}

The fact that the equity risk premium is not static means that establishing a fixed premium will lead to either an overstatement or understatement of the railroad industry COE. Table 1 below shows the rolling arithmetic mean of the equity risk premium for the period 1997 through 2006 as measured by the difference between rolling 50 year average NYSE returns and rolling 10-year T-Bond YTM over the same 50 year period. Table 1 clearly shows the variable nature of the equity risk premium as proposed by the STB.

^{25/} See Goetzmann and Ibbotson at 12

<u>Year</u> (1)	<u>50 year Rolling Arithmetic Average</u> (2)
1 1997	7.33%
2 1998	7.61%
3 1999	7.36%
4 2000	6.81%
5 2001	6.17%
6 2002	5.47%
7 2003	5.99%
8 2004	5.35%
9 2005	5.02%
10 2006	5.14%

Source: CRSP Data

As Table 1 above shows, the rolling average equity risk premium has changed every year over the last 10-years as measured by an arithmetic mean.

General fairness dictates that the COE change with the equity risk premium. Assume the STB fixed the equity risk premium at the 1998 averages of either 7.61%, based on the arithmetic mean. A COE calculation for every year through 2006 would overstate the COE relative to the rolling average equity risk premium for that year. Conversely, setting the equity risk premium at the 2005 levels of 5.02% based on the arithmetic mean, would understate the COE for every other year in the period shown in Table 1 above. Theory acknowledges that the equity risk premium will change over

time, and therefore, fairness calls for using a changing equity risk premium in developing the railroad industry COE

V. BETA ESTIMATION

Beta on common equity measures the systematic risk of stock relative to the risk of the market as a whole ^{26/} Analysts and financial researches have developed various methods for estimating Beta, but most customarily develop estimates of equity Beta through the use of an ordinary least squares ("OLS") regression model ^{27/} To develop Beta estimates using OLS, one must resolve four preliminary issues (1) the length of the total time period over which returns are measured, (2) the periodicity of the measurement within the time period selected, (3) the choice of market index to use as a market proxy, and (4) the risk-free rate ^{28/}

We discussed above our agreement with the STB's proposed methodology resolving three of these four preliminary issues. Namely, the STB's proposed use of monthly returns in the OLS regressions, its use of NYSE total return data as a proxy for the market as a whole, and its use of the 10-year T-Bond as a surrogate for the risk-free rate. The remaining issue revolves around the time period over which to perform the OLS regressions. The STB proposes to use a 120 month analysis period, but also seeks comments on the possible use of a 60 month analysis period or a 300 month analysis period ^{29/}

The STB also seeks comment on two other related issues. First, whether the calculation of individual railroad company Beta is even necessary given that some studies infer that equity Beta

^{26/} In using the term "Beta" here, we mean the measure of risk inherent in a railroad's common equity relative to the market. Betas can also be estimated for other assets as well, and are not exclusive to common stock.

^{27/} See Pratt at 80.

^{28/} As noted earlier, the risk-free rate is used to determine the Betas and is used to calculate the CAPM.

^{29/} See Ex Parte 664 at 11.

will divert toward the market level Beta of one (1) over time, and therefore it may be reasonable to assume that each railroad's Beta equals the market Beta of one (1). Second, the STB seeks comments on whether it should perform its OLS regressions with or without an intercept term. We discuss each of these issues below.

A. APPROPRIATE TIME PERIOD

The STB proposes to use 10 years, or 120 months, of average monthly stock return data to develop railroad company specific Beta estimates, but also requested comment on the appropriateness of using either 5 years (60 months) or 25 years (300 months) of monthly observations in its estimation of railroad Beta. We believe that the proposed 120 month time period is acceptable, but note it is longer than the period used by most commercial developers of Beta estimates. We also believe that under no circumstance should the STB use a period of more than 10 years, and most definitely should not use a 25 year analysis period. We discuss our rationale for these positions below.

1. 5 Year Analysis Period

Developing Beta estimates using historic equity return data inherently involves a trade-off in data availability and accuracy. A longer estimation period provides more data for the regression which potentially provides a more statistically significant result. On the other hand, the target firm may have had changes in its risk characteristics over a longer time period.³⁰ The inclusion of market

³⁰ See Damodaran at 26, Best Practices at 20, and "Principles of Corporate Finance," Brealey, Richard A., and Meyers, Stewart C., Fourth Edition at 185 ("Brealey & Meyers").

return data from a time period in which risk was different may alter the Beta estimate, and the subsequent COE

Most commercial developers of equity Beta have found that a five year interval provides enough data to develop statistically acceptable regression estimates, while not misstating the subject company's risk. Investment firms that calculate company Beta using five year intervals include Ibbotson Associates,^{31/} Value Line, Standard & Poor's and Merrill Lynch.^{32/} The exception to this norm is Bloomberg Data Services which relies upon two years of data.

2. 25 Year Analysis Period

For the same reasons that most financial companies do not go beyond five year interval in developing their Beta estimates, the STB should under no circumstance use a 25 year analysis period to estimate railroad company Beta. Simply stated, the railroad industry has changed too much in the last 25 years and a 25 year average would not reflect current risk and equity costs.

It is a well acknowledged fact that the railroad industry of 25 years ago bears little resemblance to the railroad industry today from operating, financial, and risk perspectives.^{33/} In the early 1980's, Congress had just recently passed the Staggers Rail Act of 1980 ("Staggers Act"), and railroads were still adjusting to competing in a mostly unregulated environment. At the same time, the railroad industry was in difficult financial condition with many railroads facing the risk of bankruptcy, and

^{31/} Morningstar, Inc. acquired Ibbotson Associates in March, 2006. Since all of the literature relied upon for this VS refers to data produced while still under Ibbotson Associates, we continue to use the Ibbotson name here.

^{32/} See Pratt at 82 and Damodaran at 26.

^{33/} See, for example, WCTL's and the railroad industries filings in STB Ex Parte No. 658, *The 25th Anniversary of the Staggers Rail Act of 1980: A Review and Look Ahead*.

others disappearing from existence altogether. Competitive risk was much higher 25 years ago as there were 35 Class I railroads operating in the U S versus the four (4) major U S Class I railroads operating today and the operations of the 35 were more localized or regional in nature. Rail operating practices were much less efficient than seen today, particularly in terms of the large number of employees, leading to high labor risks. Generally accepted financial theory tells us that the railroad's stock prices 25 years ago took into consideration these high risk factors, and priced railroad stocks accordingly ^{34/}

The railroads of today simply do not face nearly the same level of risk that the railroads did back in the early 1980's. Intramodal competition has nearly disappeared from the railroad industry. Competition has declined so much that the STB has commissioned a report on railroad competition and shipper captivity. The industry consolidation has meant that each of the four Class I railroads covers a very substantial service area with a diverse mix of traffic which serves to reduce risk. The railroads' balance sheets have strengthened with the divestiture of redundant assets and the decline in railroad long-term debt. This also has led to dramatically different capital structures within the industry. Finally, railroads today employ substantially smaller workforces for the volume of traffic handled, which reduces exposure to labor risks. These facts too are reflected in today's rail stock prices.

^{34/} See Brealey & Meyers at 290. The concept of Market Efficiency states that all relevant and ascertainable information about a company is reflected in its security prices. Therefore, the risks the railroads faced 25 years ago were imputed by the market into their stock prices.

The incorporation of stock price data from 25 years ago into a calculation of the price of rail equity today makes little sense, and would only serve to distort the current cost of railroad industry equity

B. NECESSITY OF CALCULATING BETA

The STB has requested comments on whether it is even necessary to estimate railroad specific Beta on an annual basis, or, in the alternative, simply assume that all railroad Beta equal (1) ³⁵ The STB seeks comments on this issue based on the idea that Beta will move towards (1) over time, as has allegedly been shown to have happened in the banking and payment providing services industry ³⁶

We believe that the STB should not adopt such an assumption, but rather continue to develop or acquire railroad specific Beta on an annual basis. We base our belief on the fact that the assumption would violate financial theory, and on the basis that the empirical data shows that the risk of the railroad industry is currently well below the market as we discuss below

1. Assuming A Beta Of One Misstates Risk

Assuming railroad Betas equal the market return of one (1) ignores the fundamentals of capital market theory ("CMT") that underlie the CAPM. CMT divides risk into two components (other than maturity risk) systematic risk and unsystematic risk ³⁷ Systemic risk is the uncertainty of future

^{35/} See Ex Parte 664 at 11

^{36/} Id

^{37/} See "The Capital Asset Pricing Model," Perold, Andre F, *Journal of Economic Perspectives*. Vol 18, No 3, 3-24 ("Perold") at 11. Also see Pratt at 71 and Brealey & Meyer at 162, or any other principles of corporate finance text

returns owing to the sensitivity of the return on the subject investment to movements in the returns for the market as a whole. Unsystematic risk is a function of the characteristics of the industry, the individual company and the type of investment interest. A fundamental assumption of the CAPM is that the risk premium portion of a security's expected return is a function of the security's systemic risk. This is because CMT assumes investors hold, or can hold, a well diversified portfolio, which will diversify away the unsystemic risk. Therefore the only risk pertinent is systemic risk.

The CAPM leads to the conclusion that the required excess return for a security over and above the risk-free rate, or its equity risk premium, is a linear function of its Beta, which reflects the investment's systematic risk. This means that each investment should lie on a line connecting the risk-free rate and the return on the market as a whole. This line is known as the Security Market Line ("SML") which we display in the graph included as Exhibit No. 3 to this VS. As shown in Exhibit No. 3, the market as a whole has a Beta equal to one (1) and the risk-free rate, which lies at the left end of the SML in the graph, has a Beta equal to zero (0). Stock A, which has a Beta equal to 0.5 and intercepts the SML at Point a, has a required rate of return half way between the risk-free rate and the return on the market as a whole.

The problem with the STB's assumption that it can simply assume that the railroads' Beta equal one (1) can be seen if we assume that Stock A is a railroad stock. Stock A's systemic risk, represented by its Beta of 0.5, indicates that it only requires half of the excess return above the risk-free rate as that of the market as a whole. If one were to arbitrarily assume that Stock A's Beta is equal to one (1), it would impose a cost (the return between Points a and b in the graph) well above the required return dictated by Stock A's systemic risk. This cost would come in the form of

a higher railroad industry COE, and, subsequently, a higher cost of capital. To impute a cost that is not dictated by a stock's systematic risk is contradictory to the fundamentals of CMT.

**2. Evidence Shows That
Railroad Risk Is Falling**

Besides the theoretical issue that assuming railroad's stock Beta equal one (1), empirical evidence shows that the railroads are becoming less risky over time, rather than more risky. To implicitly assume that railroad equity is becoming more risky is to impute unwarranted costs on to shippers. As we discussed above, the railroads are clearly less risky now than they were 25 years ago. Analysis of the STB's railroad equity Beta estimates and Ibbotson Beta estimates confirms this reduction.

To demonstrate the reduction in railroad risk not related to changes in railroad leverage, we adjusted the railroad's Beta estimates to remove the risk attributable to financial leverage. We developed each railroad's unlevered Beta by dividing the STB's Beta estimate by one plus the specific railroad's average debt to equity ratio over the 10 year period used to estimate the railroad's Beta.^{38/} Table 2 below shows the STB's estimations of the U.S. Class I railroads common equity Beta over the last six (6) years.^{39/}

^{38/} See Pratt at 84. "A reasonable approach [to unlever Beta] might be to determine the average leverage for the company during the beta measurement period rather than the leverage at the end of the measurement period."

^{39/} In its workpapers in this proceeding, the STB estimated individual railroad Beta for the years 1997 through 2005 using rolling 10 year intervals of return and T-Bond data to develop its estimates. Developing unlevered estimates of the STB's individual Beta required us to therefore develop average debt to equity ratios across each 10 year interval for each railroad. We did not develop unlevered Betas for 1997, 1998 or 1999, however, due to a lack of railroad specific debt and equity information contained in the Interstate Commerce Commission's ("ICC") Railroad Industry Cost of Capital prior to the 1991 Railroad Industry Cost of Capital decision. The ICC did not include railroad specific market values for Conditional Sales Agreements, Equipment Trust Certificates, Capitalized Leases or Miscellaneous Debt in its 1992 or 1993 decisions, but did indicate aggregate industry values for these debt instruments and railroad specific market values for notes and debentures. For these two years, we allocated non-debenture/note debt based on 1994 distributions. We do not believe this impacts the analysis since well over 80% of debt is accounted for by notes and debentures.

Table 2
Estimates of Railroad Company 10 Year Unlevered Beta

	<u>Year</u> (1)	<u>BNSF</u> (2)	<u>CSX</u> (3)	<u>NS</u> (4)	<u>UP</u> (5)
1	2000	0 73	0 64	0 56	0 55
2	2001	0 61	0 52	0 60	0 48
3	2002	0 54	0 48	0 49	0 40
4	2003	0 56	0 51	0 49	0 42
5	2004	0 55	0 47	0 46	0 40
6	2005	0 57	0 47	0 49	0 42

Source STB Ex Parte 664 electronic file "COC CAPM workpaper xls"

As Table 2 above shows, each of the railroad's unlevered Betas has fallen over the 2000 to 2006 six year period based upon STB estimates of railroad Beta and STB/ICC railroad capital structures

C. REGRESSING WITH OR WITHOUT AN INTERCEPT

The STB also seeks comments on whether it should perform OLS regression estimates of Beta with or without an intercept term. In developing OLS regression estimates of equity Beta with intercept terms, the intercept term is known as Alpha or " α "⁴⁰. Alpha represents an abnormal return that is not explained by the CAPM, and is most commonly used by portfolio managers to show whether they "beat" the market on a risk adjusted basis.

⁴⁰ See Brealey & Meyers at 186

We believe that the proper application of the CAPM requires the use of an intercept term in the OLS regression. The accepted methodology is to include an intercept term in the Beta regression model ⁴¹. The inclusion of the intercept in the model provides for the best statistical fit of the data. To not include the intercept term runs the risk of misstating the required return. For example if you have years where the firm did well and the market as whole did not, an OLS regression will tend to show a positive (but likely insignificant) intercept ⁴². In such a year, forcing the intercept to zero (0) would bias the Beta (slope) estimate upward under such circumstances. Conversely, in years where the firm was financially down while the market as a whole was up, an OLS regression estimate of Beta run without an intercept would bias the Beta downwards.

^{41/} See Best Practices at 19 and Brealey & Myers at 186

^{42/} A statistical T-test can tell whether the Alpha is caused by random errors or is statistically significant. Statistically, it tests the null hypothesis that the Alpha is equal to zero versus the alternative hypothesis that it is not equal to zero.

STATEMENT OF QUALIFICATIONS

My name is Thomas D Crowley I am an economist and President of the economic consulting firm of L E Peabody & Associates, Inc The firm's offices are located at 1501 Duke Street, Suite 200, Alexandria, Virginia 22314, 5901 N Cicero Avenue, Suite 504, Chicago, Illinois 60646 and 10445 N Oracle Road, Suite 151, Tucson, Arizona 85737

I am a graduate of the University of Maine from which I obtained a Bachelor of Science degree in Economics I have also taken graduate courses in transportation at George Washington University in Washington, D C I spent three years in the United States Army and since February 1971 have been employed by L E Peabody & Associates, Inc

I am a member of the American Economic Association, the Transportation Research Forum, and the American Railway Engineering and Maintenance-of-Way Association

The firm of L E Peabody & Associates, Inc specializes in analyzing matters related to the rail transportation of coal As a result of my extensive economic consulting practice since 1971 and my participating in maximum-rate, rail merger, service disputes and rule-making proceedings before various government and private governing bodies, I have become thoroughly familiar with the rail carriers that move coal over the major coal routes in the United States This familiarity extends to subjects of railroad service, costs and profitability, railroad capacity, railroad traffic prioritization and the structure and operation of the various contracts and tariffs that historically have governed the movement of coal by rail.

STATEMENT OF QUALIFICATIONS

As an economic consultant, I have organized and directed economic studies and prepared reports for railroads, freight forwarders and other carriers, for shippers, for associations and for state governments and other public bodies dealing with transportation and related economic problems. Examples of studies I have participated in include organizing and directing traffic, operational and cost analyses in connection with multiple car movements, unit train operations for coal and other commodities, freight forwarder facilities, TOFC/COFC rail facilities, divisions of through rail rates, operating commuter passenger service, and other studies dealing with markets and the transportation by different modes of various commodities from both eastern and western origins to various destinations in the United States. The nature of these studies enabled me to become familiar with the operating practices and accounting procedures utilized by railroads in the normal course of business.

Additionally, I have inspected and studied both railroad terminal and line-haul facilities used in handling various commodities, and in particular unit train coal movements from coal mine origins in the Powder River Basin and in Colorado to various utility destinations in the eastern, mid-western and western portions of the United States and from the Eastern coal fields to various destinations in the Mid-Atlantic, northeastern, southeastern and mid-western portions of the United States. These operational reviews and studies were used as a basis for the determination of the traffic and operating characteristics for specific movements of coal and numerous other commodities handled by rail.

STATEMENT OF QUALIFICATIONS

I have frequently been called upon to develop and coordinate economic and operational studies relative to the acquisition of coal and the rail transportation of coal on behalf of electric utility companies. My responsibilities in these undertakings included the analyses of rail routes, rail operations and an assessment of the relative efficiency and costs of railroad operations over those routes. I have also analyzed and made recommendations regarding the acquisition of railcars according to the specific needs of various coal shippers. The results of these analyses have been employed in order to assist shippers in the development and negotiation of rail transportation contracts which optimize operational efficiency and cost effectiveness.

Moreover, I have developed numerous variable cost calculations utilizing the various formulas employed by the Interstate Commerce Commission ("ICC") and the Surface Transportation Board ("STB") for the development of variable costs for common carriers, with particular emphasis on the basis and use of the Uniform Railroad Costing System ("URCS") and its predecessor, Rail Form A. I have utilized URCS/Rail form A costing principles since the beginning of my career with L. E. Peabody & Associates Inc. in 1971.

I have frequently presented both oral and written testimony before the ICC, STB, Federal Energy Regulatory Commission, Railroad Accounting Principles Board, Postal Rate Commission and numerous state regulatory commissions, federal courts and state courts. This testimony was generally related to the development of variable cost of service calculations, rail traffic and operating patterns, fuel supply economics, contract interpretations, economic principles

STATEMENT OF QUALIFICATIONS

concerning the maximum level of rates, implementation of maximum rate principles, and calculation of reparations or damages, including interest. I presented testimony before the Congress of the United States, Committee on Transportation and Infrastructure on the status of rail competition in the western United States. I have also presented expert testimony in a number of court and arbitration proceedings concerning the level of rates, rate adjustment procedures, service, capacity, costing, rail operating procedures and other economic components of specific contracts.

Since the implementation of the Staggers Rail Act of 1980, which clarified that rail carriers could enter into transportation contracts with shippers, I have been actively involved in negotiating transportation contracts on behalf of coal shippers. Specifically, I have advised utilities concerning coal transportation rates based on market conditions and carrier competition, movement specific service commitments, specific cost-based rate adjustment provisions, contract reopeners that recognize changes in productivity and cost-based ancillary charges. I have also reviewed, analyzed and evaluated both UP's Circular 111 and BNSF 90068 rate levels and other terms and conditions on behalf of coal shippers.

I have been actively engaged in negotiating coal supply contracts for various users throughout the United States. In addition, I have analyzed the economic impact of buying out, brokering, and modifying existing coal supply agreements. My coal supply assignments have encompassed

STATEMENT OF QUALIFICATIONS

analyzing alternative coals to determine the impact on the delivered price of operating and maintenance costs, unloading costs, shrinkage factor and by-product savings

I have developed different economic analyses regarding rail transportation matters for over sixty (60) electric utility companies located in all parts of the United States, and for major associations, including American Paper Institute, American Petroleum Institute, Chemical Manufacturers Association, Coal Exporters Association, Edison Electric Institute, Mail Order Association of America, National Coal Association, National Industrial Transportation League, North America Freight Car Association, the Fertilizer Institute and Western Coal Traffic League. In addition, I have assisted numerous government agencies, major industries and major railroad companies in solving various transportation-related problems

In the two Western rail mergers that resulted in the creation of the present BNSF Railway Company and Union Pacific Railroad Company and in the acquisition of Conrail by Norfolk Southern Railway Company and CSX Transportation, Inc , I reviewed the railroads' applications including their supporting traffic, cost and operating data and provided detailed evidence supporting requests for conditions designed to maintain the competitive rail environment that existed before the proposed mergers and acquisition. In these proceedings, I represented shipper interests, including plastic, chemical, coal, paper and steel shippers

STATEMENT OF QUALIFICATIONS

I have participated in various proceedings involved with the division of through rail rates. For example, I participated in ICC Docket No 35585, Akron, Canton & Youngstown Railroad Company, et al v Aberdeen and Rockfish Railroad Company, et al which was a complaint filed by the northern and mid-western rail lines to change the primary north-south divisions. I was personally involved in all traffic, operating and cost aspects of this proceeding on behalf of the northern and mid-western rail lines. I was the lead witness on behalf of the Long Island Rail Road in ICC Docket No 36874, Notice of Intent to File Division Complaint by the Long Island Rail Road Company.

STATEMENT OF QUALIFICATIONS

My name is Daniel L Fapp I am Vice President of the economic consulting firm of L E Peabody & Associates, Inc The firm's offices are located at 1501 Duke Street, Suite 200, Alexandria, VA 22314, 5901 N Cicero Avenue, Suite 504, Chicago, IL 60646 and 10445 N Oracle Road, Suite 151, Tucson, AZ 85737

I received a Bachelor of Science degree in Business Administration with an option in Marketing (cum laude) from the California State University, Northridge in 1987, and a Master of Business Administration degree from the University of Arizona's Eller School of Management in 1993, specializing in finance and operations management. I am also a member of Beta Gamma Sigma, the national honor society for collegiate schools of business

I have been employed by L E Peabody & Associates, Inc since December 1997 Prior to joining L E Peabody & Associates, Inc , I was employed by BHP Copper Inc in the role of Transportation Manager - Finance and Administration, and where I also served as an officer of the three BHP Copper Inc subsidiary railroads, The San Manuel Arizona Railroad, the Magma Arizona Railroad (also known as the BHP Arizona Railroad) and the BHP Nevada Railroad I have also held operations management positions with Arizona Lithographers in Tucson, AZ and MCA-Universal Studios in Universal City, CA

While at BHP Copper Inc , I was responsible for all financial and administrative functions of the company's transportation group I also directed the BHP Copper Inc subsidiary railroads' cost and revenue accounting staff, and managed the San Manuel Arizona Railroad's and BHP Arizona

STATEMENT OF QUALIFICATIONS

Railroad's dispatchers and the railroad dispatching functions I served on the company's Commercial and Transportation Management Team and the company's Railroad Acquisition Team where I was responsible for evaluating the acquisition of new railroads, including developing financial and economic assessment models While with MCA-Universal Studios, I held several operations management positions, including Tour Operations Manager, where my duties included vehicle routing and scheduling, personnel scheduling, forecasting facilities utilization, and designing and performing queuing analyses

As part of my work for L E Peabody & Associates, Inc , I have performed and directed numerous projects and analyses undertaken on behalf of utility companies, short line railroads, bulk shippers, and industry and trade associations Examples of studies which I have participated in organizing and directing include, traffic, operational and cost analyses in connection with the rail movement of coal, metallic ores, pulp and paper products, and other commodities I have also analyzed multiple car movements, unit train operations, divisions of through rail rates and switching operations throughout the United States The nature of these studies enabled me to become familiar with the operating procedures utilized by railroads in the normal course of business

Since 1997, I have participated in the development of cost of service analyses for the movement of coal over the major eastern and western coal-hauling railroads I have conducted on-site studies of switching, detention and line-haul activities relating to the handling of coal I have also participated in and managed several projects assisting short-line railroads In these engagements,

STATEMENT OF QUALIFICATIONS

I assisted short-line railroads in their negotiations with connecting Class I carriers, performed railroad property and business evaluations, and worked on rail line abandonment projects

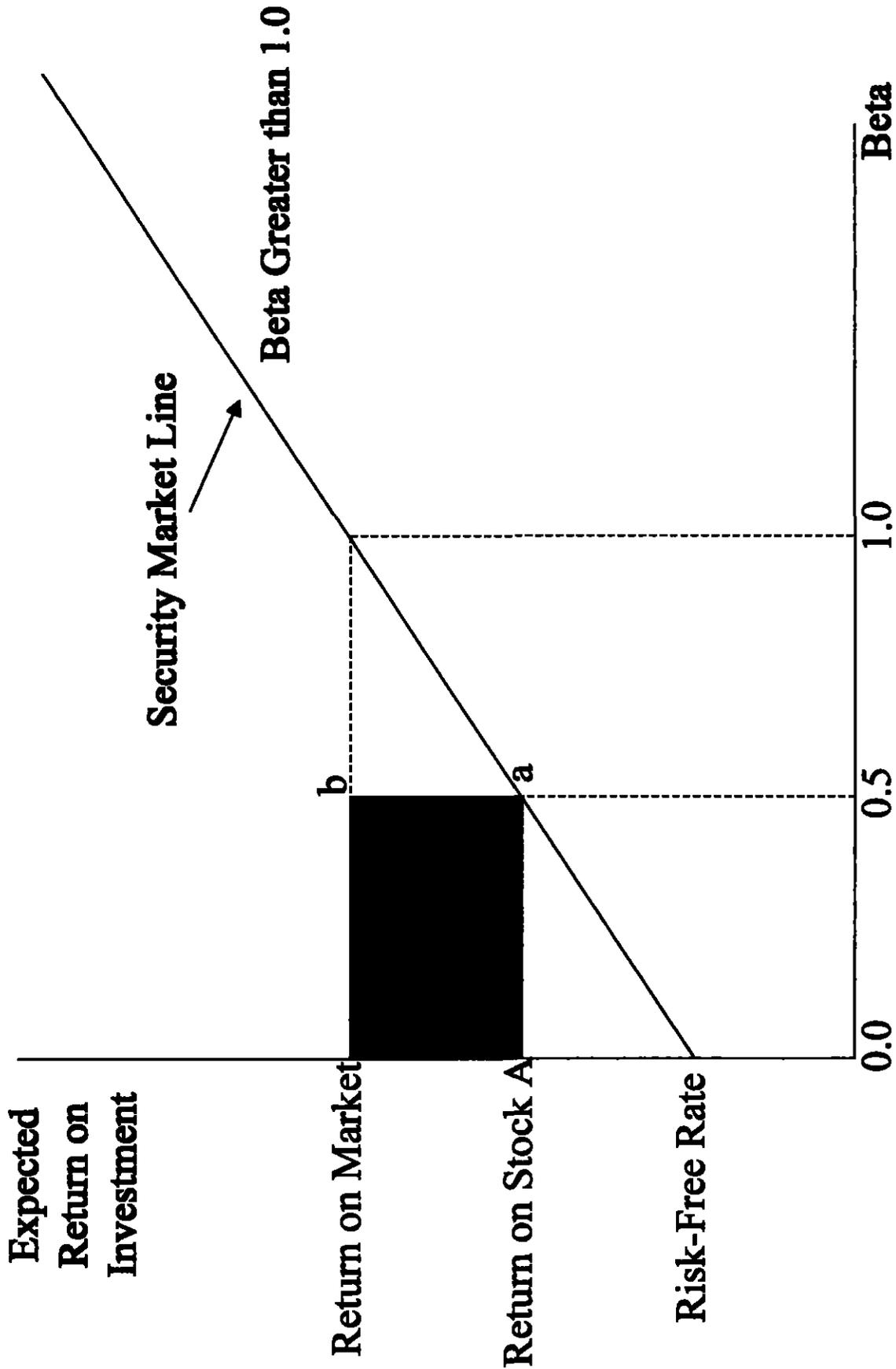
I have been frequently called upon to perform financial analyses and assessments of Class I, Class II and Class III railroad companies. In addition, I have developed various financial models exploring alternative methods of transportation contracting and cost assessment, developed corporate profitability and cost studies, and evaluated capital expenditure requirements. I have determined the Going Concern Value of privately held freight and passenger railroads, including developing company specific costs of debt and equity for use in discounting future company cash flows. My consulting assignments regularly involve working with and determining various facets of railroad financial issues, including cost of capital determinations. In these assignments, I have calculated railroad capital structures, market values, cost of railroad debt, cost of preferred railroad equity and common railroad equity. I am also well acquainted with and have used the commonly accepted models for determining a firm's cost of equity, including the Discounted Cash Flow Model ("DCF"), Capital Asset Pricing Model ("CAPM"), Fama-French Three Factor Model and Arbitrage Pricing Model.

In my tenure with L. E. Peabody & Associates, Inc., I have assisted in the development and presentation of traffic and revenue forecasts, operating expense forecasts, and discounted cash-flow models which were presented in numerous proceedings before the STB. I presented evidence applying the STB's stand-alone cost procedures in Docket Number 42057, *Public Service Company*

STATEMENT OF QUALIFICATIONS

of Colorado d/b/a Xcel Energy v The Burlington Northern and Santa Fe Railway Company, and in Docket Number 42071, *Otter Tail Power Company v BNSF Railway Company* I have also presented evidence before the STB in Ex Parte No 661, *Rail Fuel Surcharges*, and in Ex Parte No 558 (Sub-No 10), *Railroad Cost of Capital - 2006* In addition, my reports have been used as evidence before the Nevada State Tax Commission

Security Market Line



(Graph not to scale)

EXHIBIT C

Verified Statement of Dr. James E. Hodder

VERIFIED STATEMENT

OF

JAMES E. HODDER

My name is James E. Hodder. I am the Charles and Laura Albright Professor of Finance at the University of Wisconsin-Madison and am currently also Chairman of the Finance Department. My address is 3441 Crestwood Drive, Madison, Wisconsin 53705.

I have served on the faculty of the University of Wisconsin Business School since 1992. From 1978 to 1992, I served on the faculty of Stanford University, where I received my Ph.D. in Economics in 1979. During spring 2006, I taught the masters-level Corporate Finance course at Wisconsin. I have taught that course previously as well as corporate-oriented courses on Financial Policy and on Multinational Business Finance. In addition, I have taught several courses on options and other derivative securities, at both introductory and advanced levels. At Stanford, most of my teaching was in corporate finance with a particular focus on valuing manufacturing and technology investments. Hence, I have been teaching corporate finance courses since 1978 – almost 30 years.

A substantial portion of my research and publications has addressed the subjects of investment evaluation and discounting. A key aspect of those subjects is the firm or project cost of capital, including appropriate risk and inflation adjustments. Another substantial portion of my research has addressed corporate capital structure. I have previously submitted testimony to the Surface Transportation Board (Board) in two coal rate cases: on behalf of Wisconsin Power & Light in its case against Union Pacific Railroad Company and on behalf of PPL Montana in its

case against the Burlington Northern and Santa Fe Railway Company. In December 2006, I provided a Verified Statement to the Board in its Ex Parte No. 664 proceeding on behalf of the Western Coal Traffic League (WCTL) discussing appropriate methodologies to be employed in determining the railroad industry's estimated cost of capital. A copy of my detailed curriculum vitae was included as Appendix A with that Verified Statement. In February 2007, I testified at the Board's hearing in Ex Parte No. 664 also on behalf of WCTL.

In the current instance, I have been asked by WCTL to provide comments on the Board's proposed methodology for estimating the railroad industry's cost of equity as presented in its Notice of Proposed Rulemaking (NPR) in STB Ex Parte No. 664 originally served August 14, 2007, as corrected on August 20, 2007. I have also been asked to review and comment on the Verified Statement regarding the NPR being submitted by Thomas D. Crowley and Daniel L. Fapp on behalf of WCTL.

First of all, I wish to commend the Board for its new proposed methodology which is based on a reasonable implementation of the Capital Asset Pricing Model (CAPM). In my view, the CAPM-based proposal is a vast improvement over the single-stage Discounted Cash Flow (DCF) model that was previously utilized. It should yield results that are much more reasonable and accurate. At the same time, it avoids complexity that is apt to generate controversy without necessarily yielding more accurate results. Secondly, I view the comments contained in the Crowley and Fapp Verified Statement as appropriate and helpful for the Board. However, I wish to add some additional comments.

First, inherent in several of the Board's implementation choices is the trade-off of utilizing data over a longer period that provides stability in the calculation, but may not fully

reflect the latest information or an emerging trend. Both in theory and as a practical matter, one should expect Beta and also the Market Risk Premium to change over time. These are inherently not constants. A firm's Beta responds to changes in operating risk as well as changes in leverage, and the effect can be substantial. The Market Risk Premium should be expected to reflect the perceptions and risk attitudes of those supplying capital to the market. Those perceptions are of both economy-wide risks as well as the particular situations of capital suppliers. It is clear that such perceptions change through time. Furthermore, the identity of capital suppliers also changes over time in response to such factors as demographics, global trade imbalances, and financial innovations. As a consequence, it is important that the Board allow the estimates of Beta and the Market Risk Premium to change over time.

Second, I view the Board's proposed procedures of using 10 years for estimating Beta and 50 years for estimating the Market Risk Premium as being towards the longer end of what is generally considered to be reasonable. With regard to the Treasury Bond maturity, I would suggest that a 20-year maturity is probably a better match for the life of railroad investments than is a 10-year maturity.

Third, it is not entirely clear to me how the Board plans to average Beta estimates across firms. The theoretically appropriate procedure is to.

- a. Un-lever the estimates based on market returns for each firm using that firm's debt/equity ratio;
- b. Average the unlevered Beta estimates across firms using market-capitalization weights, and

- c Re-lever that average unlevered Beta estimate using the average debt/equity ratio across firms.

The alternative procedure of directly averaging levered betas implicitly assumes all the firms have the same debt/equity ratio, which of course is not the case

VERIFICATION

I, James E Hodder, verify under penalty of perjury that the foregoing is true and correct
Further, I certify that I am qualified and authorized to file this Verified Statement Executed on
September 24, 2007.

A handwritten signature in black ink, appearing to read "J E Hodder", is written over a horizontal line.