SURFACE TRANSPORTATION BOARD

DECISION

Docket No. EP 664 (Sub-No. 2)

PETITION OF THE WESTERN COAL TRAFFIC LEAGUE TO INSTITUTE A
RULEMAKING PROCEEDING TO ABOLISH THE USE OF THE MULTI-STAGE
DISCOUNTED CASH FLOW MODEL IN DETERMINING THE RAILROAD INDUSTRY'S
COST OF EQUITY CAPITAL

Digest:[1] The Board is denying a request that the agency abolish the use of the
multi-stage discounted cash flow model in determining the railroad industry's cost
of equity capital. After holding a public hearing and examining the comments
and evidence submitted into the record, the Board declines to issue a Notice of
Proposed Rulemaking and closes this proceeding.

Decided: October 31, 2016

On August 27, 2013, the Western Coal Traffic League (WCTL) filed a petition
requesting that the Board institute a rulemaking to abolish the use of the multi-stage discounted
cash flow model (MSDCF) in determining the railroad industry's cost of equity capital and
instead rely exclusively on the Capital Asset Pricing Model (CAPM). (WCTL Pet. 1,
Aug. 27, 2013.) On September 16, 2013, the Association of American Railroads (AAR) replied
in opposition to WCTL's petition. (AAR Reply 1, Sept. 16, 2013.) On December 20, 2013, the
Board served a decision granting WCTL's petition to open a rulemaking proceeding on issues
regarding the cost-of-capital calculation (without making any determinations on the merits), and
by decision served April 2, 2014, the Board sought public comments on those issues.[2]

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[1] The digest constitutes no part of the decision of the Board but has been prepared for the
convenience of the reader. It may not be cited to or relied upon as precedent. Policy Statement
on Plain Language Digests in Decisions, EP 696 (STB served Sept. 2, 2010).

[2] The Board also noted in the December 20, 2013 decision that it intended to open a
proceeding on railroad revenue adequacy and stated that it would coordinate these two
proceedings, because the methodology for determining the rail industry's cost of equity capital is
a component of the methodology used to determine revenue adequacy. See Pet. of W. Coal
Traffic League to Institute Rulemaking Proceeding to Abolish Use of Multi-Stage Discounted
Cash Flow Model in Determining R.R. Industry's Cost of Equity Capital, EP 664 (Sub-No. 2),
slip op. at 2 (STB served Dec. 20, 2013). The Board will address issues relating to revenue
adequacy in a subsequent decision in Docket No. EP 722.

After examining the comments and evidence submitted into the record, the Board declines to issue a Notice of Proposed Rulemaking and closes this proceeding. As discussed more fully below, the Board concludes that the cost-of-equity component of our annual cost-of-capital estimate for the railroad industry should be calculated, as it has been since 2009, by using a simple average of the estimates produced by the CAPM model and a discounted cash flow (DCF) model. This hybrid approach allows the Board to take advantage of each respective model's strengths while simultaneously minimizing each model's weaknesses. The current proceeding—the Board's third exploration of its cost-of-capital methodology since 2008— reaffirms the Board's previous finding that, while there is no single, correct way to calculate the railroad industry's cost of equity because the true cost of equity is never revealed, using an average of the CAPM and MSDCF produces a more appropriate estimate for our regulatory purposes than reliance on CAPM alone. See Use of Multi-Stage Discounted Cash Flow Model in Determining R.R. Industry's Cost of Capital, EP 664 (Sub-No. 1), slip op. at 15 (STB served Jan. 28, 2009). Moreover, the Board now has eight years of historical cost-of-capital estimates produced by the hybrid MSDCF/CAPM methodology. Those cost-of-equity estimates demonstrate that the CAPM methodology adopted by the Board in Methodology to be Employed in Determining the Railroad Industry's Cost of Capital, EP 664, slip op. at 6-7 (STB served Jan. 17, 2008) and the Morningstar/Ibbotson MSDCF model adopted in Use of a Multi-Stage Discounted Cash Flow Model in Determining the Railroad Industry's Cost of Capital, EP 664 (Sub-No. 1), slip op. at 15 (STB served Jan. 28, 2009) remain acceptable approaches to determining the railroad industry's cost of equity, and the record in this proceeding has not demonstrated that there are superior alternatives to the Board's current approach of averaging those models. Therefore, we will decline WCTL's request to issue a notice of proposed rulemaking and will terminate this proceeding.

BACKGROUND

Each year, the Board determines the railroad industry's current cost of capital and then uses this figure in a variety of regulatory proceedings, including railroad revenue adequacy determinations, rate reasonableness cases, feeder-line applications, rail line abandonments, trackage rights cases, and rail merger reviews. The annual cost of capital figure is also used as an input in the Uniform Railroad Costing System.

The Board calculates the cost of capital as the weighted average of the cost of debt and the cost of equity, with the weights determined by the capital structure (the fraction of capital from debt or equity on a market-value basis) of the railroad industry. See Methodology to be Employed in Determining R.R. Indus.'s Cost of Capital, EP 664, slip op. at 6. While the cost of debt is observable and readily available, the cost of equity (the expected return that equity investors require) can only be estimated. Id. Unlike the cost of debt, the cost of equity never reveals itself, not even historically. Id. Because the cost of equity cannot be directly observed, estimating the cost of equity requires relying on appropriate finance models. Id. These models, as well as the assumptions that they rely on, must be chosen with care. Id.

Beginning in 1982, the Interstate Commerce Commission derived the cost-of-equity component of the annual cost of capital using a single-stage DCF model (SSDCF model). R.R. Cost of Capital—1981, 365 I.C.C. 734, 741 (1982).[3] Under a SSDCF model, projections regarding growth are made over a single period, with no differentiation between growth in the short-term, mid-term, and long-term. In 2006, this model came under scrutiny during the annual proceeding to calculate the cost of capital for the prior year. R.R. Cost of Capital—2005, EP 558 (Sub-No. 9), slip op. at 6-8 (STB served Sept. 20, 2006). In that proceeding, WCTL argued that there was a mismatch between the five-year growth rate supplied to the Board by the AAR and the long-run growth potential of the economy as a whole. WCTL therefore suggested that the Board replace its SSDCF model with the CAPM.

On September 20, 2006, the Board issued an advance notice of proposed rulemaking (ANPRM) in Docket No. EP 664 to explore the most suitable methodology for calculating the cost of capital. On August 20, 2007, the Board issued a notice of proposed rulemaking (NPRM) in Docket No. EP 664, in which it proposed to replace the SSDCF model with CAPM. The evidence gathered in the proceeding showed that SSDCF models had fallen into disfavor in the finance and academic communities and that CAPM was a more current and widely used approach to estimating the cost of equity. Therefore, the Board adopted CAPM instead of the SSDCF model. Methodology to be Employed in Determining R.R. Indus.'s Cost of Capital, EP 664, slip op. at 2, 6-12. However, the record indicated that a MSDCF model might also be a reasonable alternative to the SSDCF model, and so the Board also began an additional proceeding in Docket No. EP 664 (Sub-No. 1) to explore further an appropriate MSDCF model that could be used in the Board's cost-of-equity determination. See generally Use of Multi-Stage Discounted Cash Flow Model in Determining R.R. Indus.'s Cost of Capital, EP 664 (Sub-No. 1) (STB served Jan. 28, 2009). In the ANPRM in Docket No. 664 (Sub-No. 1), the Board identified the following four requirements that a DCF model should satisfy: (1) it should be a multi-stage model; (2) it should not focus on dividend payments only; broader measures of cash flow or shareholder returns should be incorporated as well; (3) it should be limited to those firms that pass the screening criteria set forth in Railroad Cost of Capital—1984, 1 I.C.C.2d 989 (1985); and (4) when combined with CAPM, it should enhance the precision of the resulting cost-of-capital estimate. See Use of Multi-Stage Discounted Cash Flow Model in Determining R.R. Indus.'s Cost of Capital, EP 664 (Sub-No. 1), slip op. at 3-4 (STB served Feb. 11, 2008).

In response, AAR proposed the use of the Morningstar/Ibbotson MSDCF, and WCTL proposed a MSDCF model of its own creation. The Board was satisfied that the Morningstar/Ibbotson model met the four requirements the Board had identified. Accordingly, the Board issued a NPRM in which it proposed to determine the cost of equity of the railroad industry by using the average of the estimate produced by the CAPM model and the Morningstar/Ibbotson MSDCF model. See Use of Multi-Stage Discounted Cash Flow Model in

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[3] The key equation ($r = D/P + g$) estimated the average return on equity (r) desired by investors by calculating the current dividend yield or dividend to share price ratio (D/P) and adding to that a forecast of future dividend growth (g). The computation of dividend yield was straightforward. To estimate the growth rate, the agency used the average of leading securities analysts' five-year forecasts for growth in earnings-per-share.

Determining R.R. Indus.'s Cost of Capital, EP 664 (Sub-No. 1) (STB served Aug. 11, 2008). The Board received two rounds of public comments on the proposal to average the CAPM and Morningstar/Ibbotson MSDCF model and ultimately concluded that a "simple average of the two results will produce the best estimate of the rail industry's cost of equity that will aid us in performing a variety of regulatory responsibilities." Use of Multi-Stage Discounted Cash Flow Model in Determining R.R. Indus.'s Cost of Capital, EP 664 (Sub-No. 1), slip op. at 15 (STB served Jan. 28, 2009).

In subsequent annual cost-of-capital determinations in Docket No. EP 558, WCTL alleged that there are defects and deficiencies in the hybrid model. The Board declined to address those issues as part of its annual cost of capital determination and advised WCTL to instead file a petition to institute a rulemaking proceeding in Docket No. EP 664 to raise its concerns. On August 27, 2013, WCTL petitioned the Board to institute a rulemaking to abolish the use of the MSDCF and rely solely upon CAPM. On December 20, 2013, the Board instituted the present proceeding in Docket No. EP 664 (Sub-No. 2) to consider the issues raised in WCTL's petition, and on April 2, 2014, the Board, without taking a position on the merits of WCTL's petition, issued a decision announcing that it was seeking public comments in this proceeding as well as Docket No. EP 722, the Board's revenue adequacy proceeding. The Board administratively coordinated the procedural schedule of the two dockets but did not consolidate the two proceedings.

On May 12, 2014, AAR filed a petition to modify the procedural schedule and requested that the Board establish separate schedules for the two proceedings. On June 16, 2014, the Board denied AAR's request to separate the two proceedings' schedules, but granted AAR's request for extensions to the procedural schedule. On September 5, 2014, WCTL, AAR, Norfolk Southern Railway (NS), Arkansas Electric Cooperative Corporation (AECC), Concerned Shippers Associations (CSA), Olin Corporation (Olin), and Alliance for Rail Competition (ARC) filed comments,[4] and on November 4, 2014, WCTL, AAR, NS, and AECC filed reply comments.[5]

By decision served on May 8, 2015, the Board announced that it would hold a two-day hearing on July 22-23, 2015, to further examine issues raised in Docket No. EP 722 related to railroad revenue adequacy and issues raised in Docket No. EP 664 (Sub-No. 2) on how the Board calculates the railroad industry's cost of equity capital. The Board stated that parties attending the hearing "should be prepared to discuss whether the method the Board uses to make its annual industry cost of equity capital determinations needs to be modified and how such modifications, if any, should be implemented." See R.R. Revenue Adequacy, EP 722 et al., slip op at 3 (STB served May 8, 2015). The Board also invited the parties to discuss the following issues, which had been raised in the comments:

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[4] NS joined the comments filed by AAR. (NS Comment 1, Sept. 5, 2013.) Olin stated that it supported the comments filed by CSA. (Olin Comments 2, Sept. 5, 2013.)

[5] NS joined the reply comments filed by the AAR. (NS Reply 1, Nov. 4, 2013.)

o As part of its annual cost of capital determination, the Board uses a Multi-Stage Discounted Cash Flow (Multi-Stage DCF) model. Some comments suggest that the Board's Multi-Stage DCF model is biased upward. Does such a problem exist and, if so, how is it best corrected?

o Since 2009, the Board has relied on the Capital Asset Pricing Model (CAPM) as part of its annual cost of capital determination. Under CAPM, "beta" is used to measure the amount of non-diversifiable risk of the railroad industry. Some comments note that betas for the railroad industry have ranged above and below 1.0 since 2009. Do those changes in beta reflect actual differences in the riskiness of the railroad industry? Should the Board consider setting beta equal to 1.0 or some other figure?

o Some comments suggest that the Board's approach for determining the "market risk premium" under CAPM is atypical. Is the Board's methodology sufficiently reliable or are there more commonly used approaches that the Board should consider adopting?

o Certain comments note that the Board's CAPM analysis currently relies on a sample of four observations. Does this sample adequately reflect the railroad industry, or would using a broader sample, such as the Standard & Poor's 500 (S&P 500), lead to a more realistic estimate in determining the cost of equity?[6] (Id. at 4)

At the hearing, the Board received testimony in Docket No. EP 664 (Sub-No. 2) from WCTL, AECC, AAR, CSA,[7] and BNSF. After the hearing, on July 29, 2015, the Board served a decision leaving the record in both dockets open for 14 days to allow the parties to supplement their testimony. The Board received supplemental comments in Docket No. EP 664 (Sub-No. 2) from WCTL, AECC, and CSA. The record in this docket closed on August 6, 2015.

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[6] In the EP 664 (Sub-No. 2) section of the Hearing Notice, the Board also identified an additional topic for comment related to the methodology for determining return on investment. This topic addresses concerns raised in the EP 722 docket and will therefore not be addressed in this decision.

[7] CSA addressed specific issues in EP 722 and but also expressed its support generally for WCTL's petition to abolish the MSDCF and the positions advocated by WCTL in support of that petition. (Hr'g Tr. 146, July 23, 2015.)

DISCUSSION AND CONCLUSIONS

WCTL, as well as several other parties,[8] has advocated that the Board abolish its use of the MSDCF and rely solely upon a CAPM methodology.[9] After public comments and testimony, the Board concludes that the current cost-of-capital methodology, which uses a simple average of both the MSDCF and CAPM to estimate the cost of equity for the railroad industry, remains the most appropriate methodology for the Board's regulatory purposes. The Board's methodology for determining the cost of capital is outlined in **Part I**, below. Next, in **Part II**, the central argument put forward by WCTL and AECC that the Board's use of MSDCF should be abandoned in favor of a pure CAPM estimate is addressed. Finally, in **Part III**, the parties' comments regarding proposed changes to the Board's existing CAPM methodology are addressed.

I.   **The Hybrid MSDCF/CAPM Model Used by the Board**

To estimate the railroad industry's cost of equity, the Board averages the results of MSDCF and CAPM. Those models are described more fully below.

a. MSDCF

The cost of equity in a DCF model is the discount rate that equates a firm's market value of common equity to the present value of the stream of cash flows that could affect investors with no change in market value. These cash flows are not presumed to be paid out to investors; instead, it is assumed investors will ultimately benefit from these cash flows through higher regular dividends, special dividends, stock buybacks, or stock price appreciation. These cash flows and their expected growth of earnings are the essential aspects of the multi-stage DCF.

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[8] AECC, ARC, and The Chlorine Institute supported WCTL's petition.

[9] WCTL has also challenged the accuracy of the Board's methodology for estimating the cost of equity in the Board's annual cost-of-capital proceeding, arguing that the cost-of-equity value is substantially overstated due to the presence of buybacks and the use of an overstated market-risk premium. WCTL Reply, May 11, 2016, R.R. Cost of Capital—2015, EP 558 (Sub-No. 19). To the extent that those issues have been raised in this proceeding, they will be addressed in this decision.

Under the Morningstar/Ibbotson model, cash flow is estimated over three phases: an initial five-year stage; a subsequent five-year stage; and a final stage that lasts over the life of the assets. The Morningstar/Ibbotson model[10] defines cash flows (CF) for the first two stages as income before extraordinary items (IBEI) minus capital expenditures (CAPEX) plus depreciation (DEP) and deferred taxes (DT), or:

$$CF = IBEI - CAPEX + DEP + DT.$$

An average cash flow figure is used as the starting point of the analysis under the Morningstar/Ibbotson model. To find the cash flow at the beginning of the first year in the first stage of the model, the model uses the five-year period leading up to the first projected year. Total cash flows for the prior five-year period are divided by total sales, which determine the normalized five-year cash-flow-to-sales ratio. The ratio is then multiplied by the total sales for the year prior to the first stage (the base year) to obtain a normalized cash flow estimate for that year. Stage one and stage two growth rates are applied to this initial normalized cash flow to produce the Morningstar MSDCF first and second stage cash flows. Cash flow is defined differently in the third (and final) stage of the Morningstar/Ibbotson model. It is assumed that depreciation equals capital expenditures, and deferred taxes are zero.[11] Therefore, in the third stage, cash flows are based solely on applying the first and second stage growth rates to the base year IBEI. The procedure is to take the ratio of normalized IBEI to base year revenues to calculate the initial cash flow in stage three.

The Morningstar/Ibbotson model also calculates the growth of earnings in three stages. These three growth rate stages are what make the Morningstar/Ibbotson model a "multi-stage" model. In the first stage (years 1-5), the firm's annual growth rate is assumed to be the median value of the qualifying railroad's three- to five-year earnings-per-share (EPS) growth estimates as determined by railroad industry analysts and published by Institutional Brokers Estimate System (IBES). In the second stage (years 6-10), the growth rate is the average of all growth rates in stage 1. In stage three (years 11 and onward), the growth rate is the long-run nominal growth rate of the U.S. economy. This long-run nominal growth rate is estimated by using the historical growth in real GDP (since 1929) and the long-run expected inflation rate.

b. CAPM

The CAPM model describes the relationship between risk and expected return and is used to evaluate risk associated with securities being added to an investor's well diversified portfolio. The general idea behind CAPM is that investors need to be compensated in two ways: for time

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[10] In EP 664 (Sub No-1), the Board adopted a multi-stage DCF model popularized by Morningstar/Ibbotson in its annual publication, *Ibbotson SBBI Valuation Yearbook*. Although this publication has been discontinued, it is possible to replicate the original model using alternative data sources for the Board's annual cost-of-capital determination. See R.R. Cost of Capital—2015, EP 558 (Sub-No. 19), slip op. at 12 n.18 (STB served Aug. 5, 2016).

[11] Depreciation and capital expenditures from the initial cash flow formula cancel each other out, and deferred taxes are eliminated because they are zero.

value of money and for risk. Under CAPM, the cost of equity is equal to RF + β×MRP, where RF is the risk-free rate, MRP is the market-risk premium, and β (or beta) is the measure of systematic, non-diversifiable risk. The market-risk premium measures the additional return (over and above the risk-free rate) that an equity investor requires as compensation for the greater risks (including the risk of bankruptcy) associated with a diversified portfolio of equity.

Beta measures the covariance of the rate of return on a well-diversified portfolio (the S&P 500) and the rate of return on a particular stock. A security with a beta less than 1.0 will be less volatile than the market, while a security with a beta greater than 1.0 will be more volatile than the market. For example, if a stock's beta is 1.2, it is theoretically 20% more volatile than the market.

In order to calculate RF, the Board asks the railroads to provide the average yield to maturity in the reporting year for a 20-year U.S. Treasury Bond. Similarly, the railroads are asked to provide an estimate for market-risk premium based on returns experienced by the S&P 500 since 1926. Finally, the railroads are instructed to calculate beta using a portfolio of weekly, merger-adjusted railroad stock returns for the prior five years in the following equation:

$$R - SRRF = \alpha + \beta(RM - SRRF) + \varepsilon, \text{ where}$$

α = constant term;

R = merger-adjusted stock returns for the portfolio of railroads that meet the screening criteria set forth in Railroad Cost of Capital—1984, 1 I.C.C.2d at 1003-04;

$SRRF$ = the short-run risk-free rate, which we proxy using the three-month U.S. Treasury bond rate;

RM = return on the S&P 500; and

ε = random error term.

II.   The Argument that the MSDCF Should Be Abandoned

WCTL argues that the Board should discard the MSDCF and rely solely upon the CAPM, because the MSDCF is "conceptually and pragmatically inferior to the CAPM, and the CAPM is the vastly preferred method for estimating the [cost of equity]." (WCTL Comment 8, Sept. 5, 2014.) Moreover, WCTL argues that the MSDCF overstates the cost of equity, which benefits the railroad industry. (Id. at 8.) WCTL submits that the MSDCF cost of equity has consistently produced results that exceed the CAPM cost of equity for the last 16 years. (Id. at 10.) In the table below, WCTL compares the cost-of-equity methodologies in an attempt to demonstrate the extent of the MSDCF's overstatement. (Id. at 9.)

Table 1 Comparison of CAPM and MSDCF Cost-of-Equity (COE) Values for 2008-2012			
Year	CAPM COE	MSDCF COE	Difference
2008	10.39%	15.95%	5.56%
2009	11.39%	13.34%	1.95%
2010	11.84%	14.13%	2.29%
2011	11.31%	15.83%	4.52%
2012	10.27%	16.53%	6.26%
Average	11.04%	15.16%	4.12%

WCTL also argues that the Board's cost-of-equity estimates are too high relative to other available benchmarks. (Id. at 11.) In particular, WCTL points to Securities and Exchange Commission (SEC) Form S-4 concerning the acquisition of BNSF by Berkshire Hathaway, Inc. WCTL notes that in that filing, Goldman Sachs and Evercore, the two firms retained to perform financial advisory services for the transaction, prepared valuations of BNSF and that Goldman Sachs used a median cost of equity of 10% and a median cost of capital of 9%, while Evercore used a median cost of equity of 11% and a median cost of capital of 9%. (WCTL Comment 11-12, Sept. 5, 2014.) WCTL notes that in contrast, during the same year as those valuations, the Board's MSDCF was 13.34%, and the hybrid cost of capital estimate was 10.43%. (Id. at 12.) WCTL claims that the difference between the figures in the SEC filing and the Board's figures demonstrates that the Board's methodology results in upwardly biased estimates.

WCTL argues that the reason for this upward bias is that the Board's MSDCF model suffers from several technical flaws. (Id. at 21.) First, WCTL argues that "the second stage of the Board's MSDCF model fails to provide a smooth transition in the growth rates from the first stage to the third stage." (WCTL Comment 22, Sept. 5, 2014.) WCTL argues that this is demonstrated by the fact that, in the third stage of the model, growth rates of cash flow are reduced to one-third of those in the first and second stages. (Id. at 22.) WCTL attributes this issue with the transition to problems with how the Board defines the growth rates for each stage. Specifically, WCTL states that the change in how cash flow is defined between the second and third stage causes cash flow to increase substantially at the start of the third stage. (Id. at 23.) Also, WCTL contends that capital expenditures will be greater than depreciation in the third stage, and therefore cash flow is overstated. (Id. at 23; WCTL Reply 19, Nov. 4, 2014). In particular, WCTL rejects the Board's conclusion in Docket No. EP 664 (Sub-No. 1) that the large capital expenditures would continue only if they yielded growth in excess of the terminal growth rate. Instead, WCTL contends that, even with no traffic growth (and thus, capital expenditures that do not involve expanding capacity or increasing volume), railroads' capital expenditures associated with maintenance of existing capacity will still exceed depreciation. (WCTL Reply 19, Nov. 4, 2014, V.S. Triantis 8-9.) WCTL's witness argues that this is because positive inflation might cause that new capital to be more expensive than the book value of the existing capital. (WCTL Comment 23 & V.S. Triantis 19-20, Sept. 5, 2014).

Second, WCTL argues MSDCF produces an upward bias because stock buybacks substantially distort analysts' estimates of firm-wide earnings growth, which leads to an

overestimation of firm-wide growth and ultimately an overstatement of the industry's cost of equity. (Id. at 23-24.)

Third, as it did in Docket No. EP 664 (Sub-No. 1), WCTL contends that high MSDCF estimates enable the railroads to raise their rates, and that these rate increases result in high earnings growth that leads to circularity in the MSDCF calculation. (Id. at 25.)

AECC filed similar comments, arguing that the MSDCF was irreparably flawed and should be discarded. (AECC Comment, App. A at 2, Sept. 5, 2014.) AECC argues that the MSDCF has produced results consistently higher than the Board's CAPM results, and that the MSDCF model is upwardly biased. (Id. at 8, 12.) Moreover, AECC argues that the Board's MSDCF values have been unstable for the length of its use in determining the industry's cost of equity. (Id. at 9.) At the hearing, AECC stated that it believes the underlying problems with the MSDCF are so profound that it supports WCTL's request that the MSDCF be removed from the Board's cost-of-equity methodology. (Hr'g Tr. 53, July 23, 2013.)

AAR and NS filed comments in opposition to WCTL's petition.[12] AAR argues that the Board should deny WCTL's petition to depart from the use of multiple models for three reasons. First, AAR argues that the use of multiple models is a best practice, because each model has strengths and weaknesses. (AAR Comment 4, Sept. 5, 2014.) Second, AAR argues that WCTL has a heavy burden to justify abandoning the Board's current methodology in favor of a single model, CAPM. (Id.) Third, AAR argues that if the Board were to replace its current model, then it would need to consider additional issues beyond those identified by WCTL. (Id. at 5.)

In support of the MSDCF model, AAR argues that it is "an objective, commercially accepted, and unbiased tool for calculating the cost of equity. It was developed by disinterested, and widely respected, third parties for use by the financial community in evaluating publicly traded equities and in making real-world investment decisions." (Id. at 11.) AAR asserts that when the MSDCF model is combined with a CAPM model it "will produce a forecast that is more accurate than relying on a single model." (Id. at 13.) Overall, AAR argues, estimating cost of capital is difficult primarily because it is impossible to know what the underlying investor expectations are. (Id. at 22.) AAR states that the MSDCF and CAPM have different strengths and weaknesses. (AAR Comment 23, Sept. 5, 2014.) AAR maintains that using multiple models generates stable results and also takes advantage of the strengths of different approaches. (Id. at 23.) The weaknesses, AAR argues, stem in large part from the necessary simplifying assumptions each model makes. (Id. at 24.)

AAR states that WCTL's arguments against the use of the MSDCF focus only on the assumptions that the model makes and not the model itself. (Id. at 32.) AAR argues that "WCTL fails to acknowledge that both the CAPM and the Morningstar / Ibbotson MSDCF have certain aspects that understate the true cost of equity." (Id. at 33.) Furthermore, AAR asserts that the MSDCF cash-flow projections in the second and third stages are likely to produce downward biases provided the railroads continue to make substantial capital expenditures.

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[12] NS states that it joins the comments of AAR. (NS Comment 1, Sept. 5, 2014.)

(Id. at 33-34.) Similarly, AAR argues, the MSDCF model's cash flow calculation does not include distributions to shareholders, and as a result, would also create a downward bias in the cost-of-equity calculation that would offset any upward bias caused by "the method of measuring low growth rates relative to earnings per share." (AAR Comment 34, Sept. 5, 2014.)

After considering the arguments, the Board concludes that WCTL has not demonstrated that solely relying on CAPM is a superior methodology to the use of the hybrid MSDCF methodology. The purpose of using multiple models is not to determine whether one is conceptually and pragmatically superior to the other. Rather, as previously discussed in Docket No. EP 664 (Sub-No. 1), the MSDCF and the CAPM have different strengths and weaknesses. Both models are objective, commercially accepted, and unbiased tools. When averaged together, the MSDCF and CAPM produce a result that is more robust, precise and stable than relying on a single model. This proceeding has provided the Board with an opportunity to review the evidence and testimony, as well as the historical cost-of-equity estimates the hybrid MSDCF/CAPM model produces, and the Board concludes that it continues to produce reliable estimates.

The parties' arguments against the use of the MSDCF are centered primarily on the assertion that the model is upwardly biased and is therefore not an accurate indicator of the railroad industry's cost of equity. In support of this argument, WCTL compares the MSDCF versus CAPM cost-of-equity estimates the Board has published since adopting the hybrid MSDCF/CAPM methodology to demonstrate the difference in estimates the models produce. At the time of WCTL's filing, five years of estimates were available, which when averaged showed a 4.12% average difference in cost-equity estimates, with the MSDCF model producing higher estimates than CAPM. In the time since WCTL's petition, the Board has published additional cost-of-equity estimates. The table below breaks down all available cost-of-equity estimates the Board has produced since 2008, showing a 2.75% average difference between the CAPM and MSDCF estimates.

Comparison of CAPM and MSDCF Cost-of-Equity (COE) Values for 2008-2015			
Year	CAPM COE	MSDCF COE	Difference
2008	10.39%	15.95%	5.56%
2009	11.39%	13.34%	1.95%
2010	11.84%	14.13%	2.29%
2011	11.31%	15.83%	4.52%
2012	10.27%	16.53%	6.26%
2013	12.52%	13.40%	0.88%
2014	11.82%	12.30%	0.48%
2015	10.95%	10.97%	0.02%
Average	11.31%	14.06%	2.75%

The Board does not believe that the 2.75% deviation between the two estimates undermines the reliability of the MSDCF methodology. Neither the evidence nor the testimony

in this proceeding has shown that a deviation between the models, as demonstrated in the table above, is abnormal or that the Board's hybrid model is flawed.

All the parties agree, as they have in past proceedings, that the MSDCF and CAPM models make different simplifying assumptions and include different inputs to arrive at an estimated cost of equity. It logically follows that those models can, and in fact typically will, produce somewhat different estimates. While it is true that, since the Board has used the hybrid approach, the CAPM estimates have been consistently lower than the MSDCF estimates, this is not, by itself, evidence that the MSDCF is invalid. A key element of the CAPM model is the risk-free rate, which has been extremely low in the past several years, so it is to be expected that the CAPM results would be lower. This fact demonstrates precisely why the Board relies on two models—if one model is skewed by an unforeseen factor, the other model can serve as a check.

While the Board acknowledges that the 626 basis-point difference between CAPM and the MSDCF in 2012 was fairly wide, in the last two years the gap between the two estimates was fairly narrow. In 2015, the CAPM estimate for the cost of equity was 10.95% while the MSDCF estimate was 10.97%, a two basis-point difference. Indeed, it would hardly be surprising if the two approaches cross in the near future, and MSDCF may prove the lower of the two estimates, as past experience shows that, over time, one cost of capital model will produce higher outcomes for a period of years, and then lower outcomes over a subsequent period of years.[13]

When the Board adopted the hybrid methodology, it was not intended to be used as a benchmark against which to judge the results of the CAPM and MSDCF models individually, as WCTL proposes here. Rather, it was intended to produce a more robust estimate of the cost of equity, one that would not be overly dependent on a single input. Indeed, it is the base assumptions and varied inputs that give each model its respective strengths and weaknesses. When the Board adopted the hybrid model, it was convinced that doing so would allow the Board to take advantage of each model's strengths and weaknesses. Because the models are based on different perspectives, and thus rely on different inputs, an anomaly that might affect one model is less likely to affect the other, thus leading to a more stable overall result. The Board believes the cost-of-equity estimates developed since the adoption of this hybrid MSDCF/CAPM method in Docket No. EP 664 (Sub-No. 1) have been successful in this regard. Since 2008, when the hybrid MSDCF/CAPM method was implemented, the divergent movements of the CAPM and MSDCF estimates of the cost of equity confirm that each provides information not included in the other and that combining estimates from the two models is more accurate than relying on a single model.

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[13] See, e.g., the chart in AEP Tex. N. Co. v. BNSF Ry., NOR 41191 (Sub-No. 1), slip op. at 10 (STB served May 15, 2009), vacated and remanded, in part, on other grounds, AEP Tex. N. Co. v. STB, 609 F.3d 432 (D.C. Cir. 2010). It is also worth noting that shippers objected to the use of CAPM as a means of determining the cost of equity for the railroad industry when the Board first instituted its cost-of-capital determination, contending that "the CAPM technique was conceptually and technically flawed." See R.R. Cost of Capital—1982, 367 I.C.C. 662, 670 (1983).
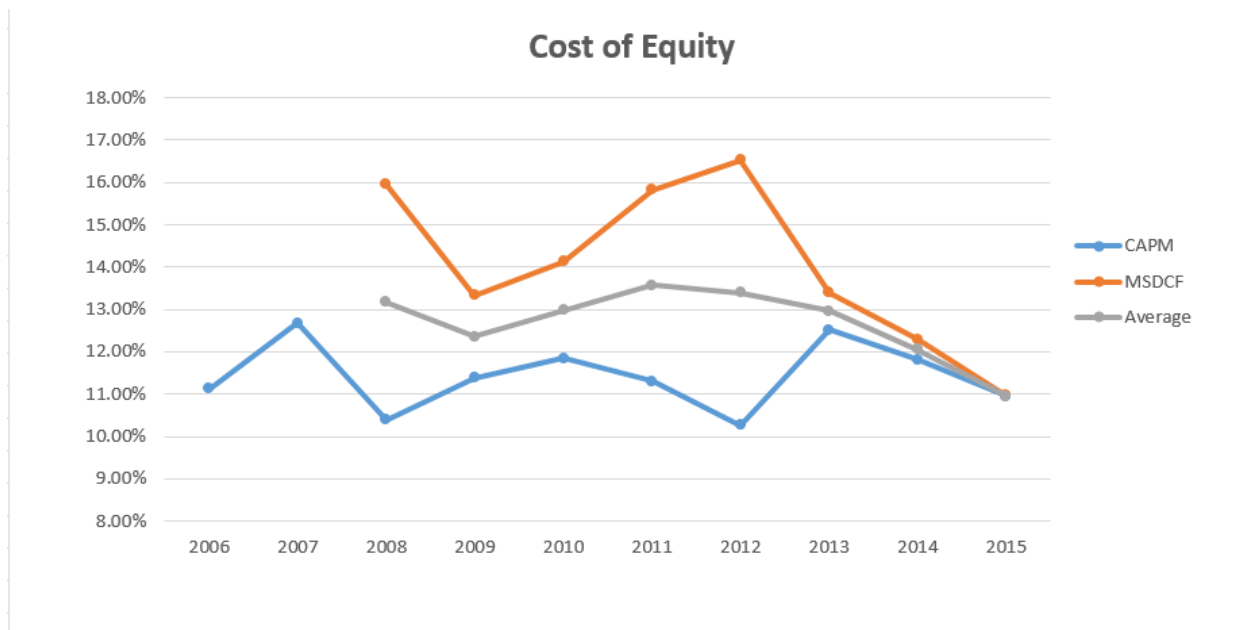
The Board disagrees with WCTL's assertion that the MSDCF is flawed because it does not provide a smooth transition in growth rates from stage to stage. The MSDCF model transitions from firm specific cash flows (first stage, years 1 to 5) to an industry average (second stage, years 6 to 10) to the economy as a whole (third stage, years 11 and onward). The reason for the switch from firm specific to industry average between the first stage and second stage is because it is not realistic to predict individual companies' growth rates beyond five years. As for the transition between the second stage to the third stage, in which the Board assumes the industry will grow at the same rate as the economy as a whole, the Board assumes that over the long-term, the level of capital expenditures that the railroad industry will make will consist of only maintenance capital, such that capital expenditures and depreciation would eventually be equal. In addition, because deferred taxes are linked to capital expenditures, the amount of deferred taxes is expected to approach zero in the long-term third stage.

The use of different growth rates for each stage means that there is not always a smooth transition between the stages. However, attempting to create smoother transitions between the stages would only add more complexity to the MSDCF model, but not necessarily more precision. One way to create smoother transitions would be to increase the number of stages, as the Board did when the SSDCF was replaced with the MSDCF. But adding more stages would be far from easy, and creating a stage shorter than five years (for example, a stage for years 6-7) would involve a stage relying on fewer years of data. Moreover, selecting which data to use, when the stages should start and end, and how long each stage would last, would likely lead to a lengthy and contentious proceeding, at the end of which there would still be no guarantee that the MSDCF results are more precise, given that the cost of equity cannot ever be truly known. For this reason, the Board believes that the better way to address the issue of potential imprecision resulting from transitions between stages is not by adding further complexity to the MSDCF model, but rather to use a second model (CAPM) that is based on different assumptions.

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As for WCTL's claims that the third stage cash flow should be modified, WCTL has not demonstrated that the current assumptions used by the Board are unreasonable. Specifically, the assumption that the long-term growth rate will standardize around the growth rate for the economy has not been demonstrated to be unreasonable. Ultimately, the Morningstar/Ibbotson MSDCF model assumes a steady rate for both growth and cash flow generation.

Furthermore, the MSDCF model's failure to account for stock buybacks does not mean it is fundamentally flawed. As the Board said in Docket No. EP 664 (Sub-No. 1), the model "focuses on a broader measure of free cash flow that is potentially available to equity investors." Use of Multi-Stage Discounted Cash Flow Model in Determining R.R. Indus.'s Cost of Capital, EP 664 (Sub-No. 1), slip op. at 12 (STB served Jan. 28, 2009). All DCF models assume that firms maximize stock holders' market value in equating the present value of projected cash flow to the current market value of stock. While it is true that railroad firms have engaged in buybacks of their shares in recent years, the question is whether the cash withdrawn from the firm has greater or lesser value in alternative uses. Clearly, if the return on equity on new investment is greater than the cost of equity, the present value of cash flows will *fall* if the firm distributes cash flow through buybacks rather than reinvesting those funds. Likewise, if the return on equity on new investment is less than the cost of equity, the present value will increase if firms distribute cash flow to stockholders. The Board therefore assumes that the discount rate is the cost of capital itself and that the effect of share buybacks is neutral if market value of equity is not to change. In addition, we do not accept the conclusion that earnings per share growth rates are biased upward by buybacks. As WCTL acknowledges, "[a]nalysts presumably take into account those buybacks to forecast the EPS growth." (WCTL Comment at 24, Sept. 5, 2014.) Therefore, the Board finds that there is a lack of evidence in the record supporting the position that the analyst growth rates are distorted by stock buybacks.

WCTL's argument about the circularity of using analyst growth estimates is also not persuasive. WCTL argues that high MSDCF estimates enable the railroads to raise their rates, which result in high earnings growth, which then produces a higher cost of equity calculation the following year, which allows railroad to raise rates, and so on. The Board rejected the same argument from WCTL in Docket No. EP 664 (Sub-No. 1). There, the Board found that only a small amount of railroad traffic is subject to rate regulation and thus, the growth in rates is "driven more by market forces than regulatory concerns." In addition, the Board stated that growth is not driven solely by rates, but also by volume and productivity. Accordingly, the Board concluded that any impact that WCTL has identified is so small that it would not create a circularity problem. Use of Multi-Stage Discounted Cash Flow Model in Determining R.R. Indus.'s Cost of Capital, EP 664 (Sub-No. 1), slip op. at 9-10 (STB served Jan. 28, 2009).

Determining the estimate of the cost of equity remains a difficult task, with the true cost of equity never revealed. The Board continues to believe that the simple average of the two results will produce the best estimate of the rail industry's cost of equity. See Use of Multi-Stage Discounted Cash Flow Model in Determining R.R. Indus.'s Cost of Capital, EP 664 (Sub-No. 1), slip op. at 5, 15 (STB served Jan. 28, 2009). The CAPM and MSDCF models value inputs and market variables differently. It follows, and the parties agree, that each model has its strengths and weaknesses. The Board recognized this in EP 664 (Sub-No.1) when it adopted the hybrid MSDCF/CAPM methodology and concluded that by using an average of the two models, the

Board could take advantage of each model's strengths while simultaneously minimizing their weaknesses. Id. at 15. This rationale is as true today as it was in 2009. As such, the Board finds that averaging the results of a MSDCF with the result of CAPM continues to provide the best estimate of the railroad industry's cost of equity for our regulatory purposes.

III.   Criticisms of CAPM

In addition to urging the Board to abandon use of the MSDCF, WCTL argues that there are problems with the CAPM model that require modifications by the Board. We discuss and address each of the criticisms below.

a. Beta

A key element of the CAPM component of the Board's annual cost-of-capital determination is "beta," which is used to measure the amount of non-diversifiable risk in the industry. As a measuring stick for risk, a beta of 1.0 indicates that a security's price will move with the market as a whole. A beta exceeding 1.0 indicates that a security's return is expected to be more volatile than the market rate of return. Conversely, a beta of less than 1.0 indicates that a security's return is expected to be less volatile than the market rate of return.

WCTL argues that the Board's CAPM model should be modified to include a Blume adjustment. (WCTL Comment 40, Sept. 5, 2014.)[14] According to WCTL, the Blume adjustment reflects a trend in beta to revert to 1.0 over time. (Id. at 41.) The Blume adjustment accounts for this by "assign[ing] an approximately 2/3 weight to the observed beta with a 1/3 weight to a 1.0 beta in order to achieve a more accurate result." (Id. at 40-41.) WCTL argues that the need for the Blume adjustment is particularly highlighted by the Board's estimation of beta in 2013. (Id. at 43.) WCTL is concerned that the 2013 figure is anomalously high and reflects the fact that railroads have become more profitable over the 2008-2013 measurement period by exercising their monopoly power. WCTL argues that collective performance of the railroad industry and its respective market and pricing power may impact the estimation of beta in a manner similar to the impacts WCTL alleges are present in the MSDCF model (i.e., circularity between high prices and a higher cost of capital). (WCTL Comment 45, Sept. 5, 2015.) WCTL argues that the use of a Blume adjustment will account for this market power. (Id.)

WCTL also asserts in its hearing testimony that it is common to use a beta adjustment in CAPM. (Hr'g Tr. 37, July 23, 2013.) In WCTL's comment, it cites to a survey conducted by the Association for Financial Professionals in which 57% of respondents at publicly traded companies use an adjusted (Blume-type) beta. WCTL also notes that the Canadian Transportation Agency began using a Blume adjustment in 2011. (WCTL Comment at 41.)

AECC also supports adjustments to the Board's beta estimates. AECC argues that, since the Board implemented a CAPM methodology, beta estimates have increased 57%, which would

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[14] The term Blume adjustment comes from the author of the concept. Marshall E. Blume, On the Assessment Risk, 26 J. of Fin. 1, 1-10 (1971).

suggest that the industry has a high risk profile when the industry has instead been stable. (AECC Comment, App. A at 3-4, Sept. 5, 2014.) AECC similarly argues that the year-over-year earnings growth of the railroad industry resulted in investors bidding up the price of rail equities, which the Board's CAPM model mistakenly interpreted "as a detrimental change in the risk profile of the rail industry." (Id. at 4.) AECC argues that the Board should not implement a beta in excess of 1.0 when the rail industry is revenue adequate. (Id. at 7.) At the public hearing, AECC advocated that the Board use a beta of 1.0. (Hr'g Tr. 51, July 23, 2013.)

AAR argues that application of a Blume adjustment is wholly arbitrary and that WCTL has failed to show that application of the adjustment would be appropriate for the intended use. (AAR Reply 26, Nov. 4, 2015.) AAR argues that "there is no correlation between an increase in beta and the exercise of market power," as asserted by WCTL. (Id.) Rather, AAR maintains that when market power increases, the firm is less risky, and thus betas actually decrease. (Id.) If, however, the Board were to adjust the CAPM, AAR proposes the use of the Vasicek adjustment, which "weighs the raw beta and the market beta according to the relative reliability (standard error) of the estimates." (Id. at 28-29.)

WCTL and AECC's beta arguments are not persuasive. Both WCTL and AECC have argued that beta, as it is currently implemented by the Board, is artificially increased by the fact that the railroad industry has strong market power. But the evidence presented on this record has not demonstrated a correlation between an increase in beta and the exercise of market power. To the contrary, there are indications that as market power increases, the riskiness of such firms may decrease. (AAR Reply 26, Nov. 4, 2014.) In addition, betas can change for other reasons, such as productivity improvements or structural shifts in market supply or demand.

Nor has WCTL shown that the Blume adjustment is used widely in the financial industry or that it is necessary for our regulatory purposes. Professor Blume, who created the Blume adjustment, argued that the adjustment is needed to account for the fact that all betas revert to 1.0 over time. He attributes this phenomenon to the concept that, over time, projects undertaken by firms take on less risk than existing projects. However, on this record, there is insufficient evidence that a railroad company's systemic risk would revert to the average over time. Moreover, other academics have questioned Blume's conclusion.[15] Thus, whether such risk reduction in capital investments will hold true for the railroad industry is an open question. In addition, there is no readily apparent consensus of expert opinion or industry best practice that demonstrates with any measure of reliability that a regulatory agency should use the Blume adjustment. Although WCTL argues that a survey shows that 57% of respondents at publicly traded companies use some sort of adjustment, the survey does not mention whether it was a Blume adjustment. But the survey also indicates that, when considering all organizations, "[t]he use of adjusted or raw beta factors is evenly divided. . ., although the share of companies using raw beta has increased since 2010." (WCTL Comment 42, Ex. 4 at 9, Sept. 5, 2014.) It should be noted this lack of consensus regarding the most appropriate way of treating beta in CAPM again demonstrates the importance of also using the MSDCF model as a counterbalance. Absent

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[15] See M. Lally, An Examination of the Blume & Vasicek Betas, 33 The Financial Review 183-198, at 189 (1998).

additional evidence, the Board continues to believe that its approach to determining the railroad industry's beta is reasonable and accurate, and we therefore decline to change our beta methodology at this time.

     b. Market-Risk Premium (MRP)

       WCTL argues that in determining CAPM, the Board should calculate the MRP using a 50-year historical period, rather than a period with a base year of 1926, as the Board currently does. WCTL provides two reasons in support. First, it argues that the use of a 1926 base year does not reflect norms within the financial industry. (WCTL Comment 32, Sept. 5, 2014.) WCTL states that markets have evolved since 1926, and investors no longer face the same market conditions. (Id. at 32-33.) According to WCTL, while past performance of the market is relevant, use of a 1926 base year does not account for the systemically lower investment returns in later years. (WCTL Comment 39, Sept. 5, 2014.) Second, WCTL claims that the use of an older period leads to an overstatement of MRP, which in turn rewards railroads and their investors while punishing captive shippers.[16] (Id. at 39.) WCTL therefore argues that a 50-year historical period, which would produce a 5% MRP, is more reasonable than the Board's current approach. (Hr'g Tr. 38, July 23, 2013.) In support, WCTL cites a 2013 survey of Chief Financial Officers performed by Duke University professors John Graham and Campbell Harvey, indicating an average MRP (relative to the 10-year Treasury bond) of 3.83% and a total market return forecast of 5.46%. (WCTL Comment 35-36, Sept. 5, 2014.) WCTL also cites to a 2013 survey by the Association for Financial Professionals, which shows that 59% of respondents use a MRP of less than 5%, as well as an academic paper that found an average MRP of 5.7% in the United States. (Id. at 36.) Finally, WCTL cites a 2013 survey conducted by Pablo Fernandez that found an average MRP of 5.7% in the United States. (Id. at 37.)

       In response, AAR argues that determining MRP is as elusive as determining the cost of equity, in that there are numerous ways to determine it, but no one method is correct. (AAR Reply 18, Nov. 4, 2014.) AAR contends that the Board's use of a 6.96% estimate of MRP based on historical returns is reasonable. (Id. at 19.) AAR argues that WCTL provides no basis for calculating MRP based on a 50-year historical period and does not explain why it would better reflect current market conditions. (Id. at 22.) AAR argues that a 1926 base year is "reasonable, reliable, and very commonly used." (Hr'g Tr. 116, July 23, 2013.)

       We disagree with WCTL's assessment of the Board's MRP figure, as well as its arguments against the use of a 1926 base year. Like determining the overall cost of equity, there is indeed no single correct method for determining MRP. Using a historical average allows the MRP estimate to use all of the relevant data available for determining the MRP figure. Moreover, when the Board adopted the 1926 base year in Docket No. EP 664, it considered WCTL's proposal for use of a 50-year base period. See Methodology to be Employed in Determining R.R. Indus.'s Cost of Capital, EP 664, slip op. at 8 (STB served Jan. 17, 2008). The Board rejected the proposal, because evidence in the record demonstrated that developing

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[16] At the Board's public hearing, AECC stated that it defers to WCTL's position regarding MRP. (Hr'g Tr. 55, July 23, 2013.)

the MRP from a 1926 base year is a standard approach in the industry. Id. The Board noted that it would reconsider the historical period if a party was able to demonstrate that another approach had become the industry norm. Id. at 9. The evidence in this record does not demonstrate that another MRP methodology has supplanted the use of a 1926 base year as the norm within the industry. WCTL cites to three surveys that they claim show that financial analysts use a MRP that is lower than the ones derived by the Board. However, the survey results do not address the methodology that the respondents used to arrive at their figures. In other words, there is no indication of whether the respondents used a 50-year period, a period back to 1926, or some other period. In any event, the AAR has presented compelling evidence that a broader look at the surveys used by WCTL demonstrates "that the same historical average relied on by the STB lies well within the ranges from the surveys." (See AAR Reply, V.S. Villadsen 14, 22-23 & n.52, Nov. 4, 2014.) Moreover, there is ample evidence in the record that, in their own proceedings before state regulatory agencies, WCTL's members rely on MRP estimates at or above the level used by the Board. (AAR Reply 23-24, Nov. 4, 2014.)

The evidence in this record also does not show that the use of a 1926 base year is any less precise than using a shorter period of time for calculating MRP. Because annual rates of return on stocks are volatile and can be negative over one or more decades, shorter period MRPs tend to have high variances relative to longer periods. Also, some of the MRP estimates using shorter periods make subjective adjustments, such as "normalizing" interest rates, which could be problematic because the market return reflects all of the adjustment and not just the MRP. In addition, while WCTL proposes a 50-year period, it provides no valid justification for why that period is better than 40 years or 60 years. In fact, AAR has presented evidence that shows using a "post-war" period with a base year of 1947 produces a MRP very close to the Board's figures. (See AAR Reply, V.S. Villadsen 15, Nov. 4, 2014.) Rather than picking a range of years that could be viewed by some as arbitrary, the Board believes the better course of action is to incorporate data for all the years for which there is data.

Accordingly, absent any evidence that the methodology is either flawed or that the industry relies upon a different methodology, we decline to change how the Board estimates MRP at this time. Again, the Board believes that, to the extent that there may be issues with the current MRP approach (which the Board does not believe to be the case), the better solution is not through further modifications, which may or may not add precision, but through the use of a second model to serve as a check.

c. Sample Size

Both WCTL and ARC raise issues regarding the sample size used in the Board's CAPM model,[17] particularly noting that the sample excludes BNSF because it is a privately held subsidiary of Berkshire Hathaway.[18] ARC contends that "the Board has not resolved the issue of

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[17] WCTL also raises this issue in reference to the MSDCF. (WCTL Comment V.S. Levine 15-16, Sept. 5, 2014.)

[18] To be included in the Board's cost-of-capital calculations, a railroad must be a Class I rail carrier, have rail assets greater than 50% of its total assets; have a debt rating of at least BBB

(continued…)

how to treat BNSF data in making its cost-of-capital calculations." (ARC Comment 2, Sept. 5, 2014.) ARC argues that "there are various ways of dealing with the BNSF issue, including some form of extrapolation from UP data, or creation of a separate cost of capital for BNSF, or BNSF and Berkshire Hathaway, its corporate parent." (Id. at 3.) WCTL proposes similar approaches, arguing that the Board could use UP's beta as a proxy, because excluding BNSF inflates the remaining betas of the industry. (WCTL Comment 5 n.6, 42, Sept. 5, 2014; WCTL Reply 37, Nov. 4, 2014.) WCTL recommends UP as a proxy, because "UP is similar to BNSF in terms of size, scope, and location of operations." (Id. at 42.)

BNSF opposes the use of its parent company, Berkshire Hathaway, as a proxy for BNSF's inclusion in the sample size. (Hr'g Tr. 245, July 23, 2013.) BNSF states that Berkshire Hathaway is a multinational conglomerate holding company, with an extensive and diversified portfolio of holdings, only a small part of which is BNSF, its railroad subsidiary. (Id.) AAR states that the MSDCF/CAPM sample size excludes BNSF because "it no longer meets the criteria for inclusion in its sample base for calculation of the cost of capital." (AAR Comment 13 n.12, Sept. 5, 2014.)

We are not persuaded that it is appropriate at this time to alter the current CAPM sample to include a proxy for BNSF. The use of a proxy in place of BNSF poses a number of concerns. Under 49 U.S.C. §10704(a), we are charged with determining the railroad industry's cost of capital. Including data from non-railroad entities, such as Berkshire Hathaway, would introduce data that does not necessarily originate from within the industry, and doing so may have unintended consequences.

In any event, the evidence on this record does not demonstrate that the sample size has had a negative or distortive effect on our annual cost-of-equity determination. Rather, while BNSF was dropped from the Board's sample group following its acquisition by Berkshire Hathaway, Kansas City Southern Corporation has been added to the list of Class I railroads meeting the Board's eligibility screens. Moreover, as discussed more fully above, in the time since the Board adopted the hybrid MSDCF/CAPM methodology, the annual determinations have not been shown to be unreliable—including those years since BNSF was dropped from the calculation. Should the industry experience further reduction, either by merger or by private acquisition, the time could be right to more fully explore options to increase the industry sample size. But the record in this proceeding is not developed sufficiently for the Board to make such a determination, and such a determination is not necessary at this time.

CONCLUSION

The current hybrid methodology has been in use since the Board's 2009 decision. The record developed in this proceeding does not establish that a change in regulatory methodology is warranted or that such a change would produce positive results. This proceeding has served to

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(…continued)
(Standard & Poor's) and Baa (Moody's); be listed on the New York or American Stock Exchange; and pay dividends throughout the year.

demonstrate that while there are a variety of methodologies available to estimate the cost of equity, no currently available model is more correct than any other. This is the third time since 2008 that the Board has examined its cost-of-capital methodology. See Methodology to be Employed in Determining R.R. Indus.'s Cost of Capital, EP 664, (STB served Jan. 18, 2008); Use of Multi-Stage Discounted Cash Flow Model in Determining R.R. Indus.'s Cost of Capital, EP 664 (Sub-No. 1) (STB served Jan. 28, 2009). In its 2009 decision (slip op. at 15), the Board noted that "if our exploration of this issue has revealed nothing else, it has shown that there is no single simple or correct way to estimate the cost of equity for the railroad industry, and countless reasonable options are available." Further, the Board said, both CAPM and MSDCF "have their own strengths and weaknesses, and both take different paths to estimate the same illusory figure," id., and concluded that "[b]y using an average of the results produced by both models, we harness the strengths of both models while minimizing their respective weaknesses." (Id.) After examining the evidence and testimony of the parties and examining the historical cost-of-equity estimates our hybrid methodology has produced, the Board concludes that those estimates are reliable and will continue to be reliable. We will therefore deny WCTL's request to abolish use of the MSDCF and will close this proceeding.

It is ordered:

1. The Board declines to issue a notice of proposed rulemaking and closes this proceeding.

2. This decision is effective on its service date.

By the Board, Chairman Elliott, Vice Chairman Miller, and Commissioner Begeman.