

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

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PETITION OF THE WESTERN	)	
COAL TRAFFIC LEAGUE TO	)	
INSTITUTE A RULEMAKING	)	
PROCEEDING TO ABOLISH THE	)	EP 664 (Sub-No. 2)
USE OF THE MULTI-STAGE	)	
DISCOUNTED CASH FLOW	)	
MODEL IN DETERMINING THE	)	
RAILROAD INDUSTRY'S COST OF	)	
EQUITY CAPITAL	)	

WESTERN COAL TRAFFIC LEAGUE PETITION FOR RECONSIDERATION

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WESTERN COAL TRAFFIC LEAGUE

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Pursuant to 49 U.S.C. § 722(c) and 49 C.F.R. § 1115.3(b), the Western Coal Traffic League (“WCTL” or the “League”) petitions the Surface Transportation Board (“Board” or “STB”) for reconsideration of the decision it served in the above proceeding on October 31, 2015 (the “Decision”).

SUMMARY

WCTL showed that the financial and investment community uses the Capital Asset Pricing Model (“CAPM”), and not discounted cash flow models, such as the Board’s Multi-Stage Discounted Cash Flow model (“MSDCF”), to estimate the cost of equity (“COE”) and the cost of capital (“COC”) for firms such as railroads. The expert witness for the Association of American Railroads (“AAR”) even agreed.

WCTL further showed that the market relies on the CAPM utilizing a market risk premium (“MRP”) that is lower than the 1926-based historical version used

by the Board. The market thus obtains and uses railroad COE and COC values substantially lower than the Board's.

The Board's Decision to retain its existing COE methodology under such circumstances constitutes material error and arbitrary and capricious decision-making that is not supported by substantial evidence.

The Board did not give meaningful consideration to, and instead ignored or evaded, the evidence that WCTL submitted. The Board's "'failure to respond meaningfully' to objections raised by [WCTL] renders its decision arbitrary and capricious."¹ The Decision did not consider the evidence that WCTL submitted showing that the MSDCF and 1926-based MRP are not commonly utilized by the market and produce divergent results that are not explained by the factors cited. The Board did not "weigh[] competing factors, select [a model or formula] with adequate support in the record, and intelligently explain[] the reasons for making that choice."²

These and other matters are discussed further below. Omission of other matters should not be construed as agreement with the Decision. In particular, WCTL disagrees with the Decision's unwillingness to incorporate a Blume beta adjustment based on a supposed "lack of consensus." Decision at 16-17. The Decision is inconsistent in its approach to consensus as the Blume adjustment enjoys far broader support than both the Board's MSDCF and chosen MRP.

¹ *PSEG Energy Res. & Trade LLC v. FERC*, 665 F.3d 203, 208 (D.C. Cir. 2011 (citations omitted)).

² *FERC v. Elec. Power Supply Ass'n*, 136 S. Ct. 760, 784 (2016), *as revised* (Jan. 28, 2016).

I. THE BOARD SHOULD NOT UTILIZE THE MSDCF

WCTL explained at length that the Board's MSDCF was defective and produced flawed results, particularly as compared to the more reliable and broadly utilized CAPM. WCTL also showed that the Board would obtain a more accurate and superior COE much more closely aligned with the values utilized by the financial and investment community by relying solely on the CAPM.

The Decision largely ignored or minimized WCTL's evidence showing that the market relies on the CAPM and not the MSDCF and uses lower COE and COC values for the railroad industry. The Board uses the COE and COC to obtain the opportunity cost of capital, *i.e.*, the return that railroads need in order to attract (or, more accurately, retain) capital from investors. The Board's failure to give meaningful consideration to WCTL's evidence constitutes major error. While the Decision instead attempts to defend its approach on other grounds, those defenses are all defective and ignore WCTL's specific criticisms.

A. The Norm in the Financial and Investment Community is to Rely Solely on the CAPM, and Not the MSDCF, to Determine the COE

The Board uses the COE and COC to estimate the return that railroads need to provide to investors so that the investors will be willing to provide capital to fund railroad investment. Accordingly, the agency should logically use the same methodology and inputs as the financial and investment community in order to obtain the same or approximate results as that community. To do otherwise deliberately is to calculate figures in a vacuum and invite market distortion and resource misallocation. "While

courts routinely defer to agency modeling of complex phenomena, model assumptions must have a ‘rational relationship’ to the real world.”³

WCTL demonstrated at length that the recognized consensus in the financial and investment community is to rely solely on the CAPM and that the MSDCF is generally not utilized to estimate the COE of firms such as railroads.⁴ Even Dr. Villadsen, the AAR’s expert witness for the Brattle Group fully agreed: “I don’t disagree that if you go and ask businesses what model do you estimate, they will say the capital asset pricing model, by far, the most frequently.” July 23, 2015 tr. at 129. This admission is telling, yet receives no mention in the Decision. While the Decision attempts to provide other reasons for retaining the MSDCF, those explanations only confirm the inaccuracy and unsuitability of the methodology.

³ *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1053 (D.C. Cir. 2001) (internal citations omitted).

⁴ WCTL Opening Comments in EP 664 (Sub-No. 2) (Sept. 5, 2014) (“WCTL Opening Comments”), at 20-21, citing, *e.g.*, Triantis Opening VS at 5-6, John Graham & Campbell Harvey, *The theory and practice of corporate finance: Evidence from the field*, J. of Financial Economics 61 (2001) (finding that 73.5% of companies always or almost always use CAPM to calculate COE, other methods are used much less frequently, and very few firms use the DCF model), R. Bruner, K. Eades, R. Harris, & R. Higgins, *Best practices in estimating the cost of capital: survey and synthesis*, Financial Management 27 (1998) (85% of companies surveyed use the CAPM to calculate the COE), and the Association for Financial Professionals survey conducted in 2013 on *Estimating and Applying Cost of Capital* (Association for Financial Professionals 2013) (finding that 85% of all respondents, and 87% of publicly traded respondents, used the CAPM, but only 4% used the dividend discount model, 2% used the arbitrage pricing model, and 9% used other). In addition, K Eades, R. Harris, & R. Higgins, “*Best Practices in Estimating the Cost of Capital: An Update*, 1 J. of Applied Finance 15 (2013), found that CAPM had become more dominant since the 1998 article and that only one of the firms (5%) surveyed relied on a dividend discount (DCF) model, and only as a check on the CAPM.

B. The Narrowed MSDCF-CAPM Gap Remains Substantial

WCTL showed that the MSDCF and CAPM values had diverged substantially, resulting in substantially higher COE and COC values. *E.g.*, Decision at 9. In response, the Decision places a major emphasis on how the gap between the MSDCF and CAPM values had narrowed in recent years after WCTL filed its petition, and speculates that the MSDCF may fall below the CAPM in future years. Decision at 11-12. The Board's analysis ignores several major considerations.

First, the Decision ignores the fact that even the narrowed gap remains substantial. The Board calculates an average difference of 275 basis points over eight years (2008-2015). The 275 basis points amounts to over 24% of the average CAPM COE during that period ($2.75\% \div 11.31\% = 24.3\%$). The impact is massive for coal shippers. Exhibit A quantifies the impact of the 275 basis points on the jurisdictional threshold for 1,000-mile unit train coal movements over BNSF and UP under the 2015 URCS. The impact exceeds \$1.00 per ton, or more than 6%. The impact on stand-alone costs is apt to be as large or greater. The gap amounts to millions of dollars each year for Western unit coal shippers and their ratepayers. The Decision's dismissal of the gap as "narrow" constitutes an abdication of the Board's role as "guardian of the public interest." *Public Serv. Co. of Colo. d/b/a Xcel Energy v. Burlington N. & S.F. Ry.*, NOR 42057 (STB served Jan. 19, 2005), at 4 (citation omitted).

Second, the gap would be much larger if the Board's CAPM used the same MRPs as the financial and investment community, as discussed *infra*. The Decision simply uses one distorted analysis to support another.

Third, while acknowledging that the MSDCF has exceeded the CAPM for eight consecutive years (*id.* at 12), the Decision ignores the fact that the overstatement existed for the prior ten years (1997-2006), based on the data that the AAR submitted to support the MSDCF's original adoption.⁵ The persistence of the overstatement over eighteen consecutive years indicates more than a passing problem. Furthermore, the gap actually grew over the last eight years compared to the previous ten.

The Decision next claims that past experience, as reflected in a chart from an earlier rate case, shows that the models will fluctuate in terms of producing higher or lower results.⁶ The claim is highly speculative, particularly since MSDCF values have exceeded CAPM values for eighteen consecutive years. The Decision's reliance on the referenced chart is bizarre. The D.C. Circuit reversed and remanded the Board's decision in that earlier case precisely because of the Board's unexplained and unjustified reliance on that very chart. "As far as can be ascertained from the decision, the Board's analysis consisted of nothing more than an estimation measured by a cursory glance at the graph."⁷ The Board's choice to rely on an unexplained chart that was previously

⁵ See Stangle Appendix, from AAR Reply Comments in EP 664 (Sub-No. 1) (Oct. 14, 2008), included as Exhibit 2 to WCTL Opening Comments.

⁶ Decision at 12 & n.13, citing *AEP Tex. N. Co. v. BNSF Ry.*, NOR 41101 (Sub-No. 1), at 10 (STB served May 15, 2009), *vacated and remanded, in part*, *AEP Tex. N. Co. v. STB*, 609 F.3d 432 (D.C. Cir. 2010).

⁷ 609 F.3d at 442. The Decision's claim that *AEP Texas North* was vacated on other grounds is unfounded.

The Decision's reference to shipper objections to the CAPM over thirty years ago (Decision at 12 n.13) is also makeweight. The CAPM's support was hardly as broad at the time. See, e.g., D. Mullins, Jr., *Does the Capital Asset Pricing Model Work*, Harvard Business Review (January 1982), <https://hbr.org/1982/01/does-the-capital-asset-pricing->

discredited evinces a preference for a particular outcome in the absence of factual support, particularly as MSDCF values have exceeded CAPM values for eighteen consecutive years. An agency's "purported expertise" receives "no deference" where its explanation "lacks any coherence."⁸

C. Low Risk-Free Rates Do Not Explain the Gap

The Decision's only attempt to explain the MSDCF-CAPM gap is a passing claim that the CAPM, unlike the MSDCF, is sensitive to interest rates. "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." Decision at 12. The Decision's claim is wrong both factually and conceptually.

Empirically, MSDCF values have exceeded CAPM values for eighteen consecutive years (1997-2015), encompassing years with higher interest rates. Furthermore, the Decision's posited relationship does not hold even during more recent years since 2007, when the Board has used its hybrid methodology. The MSDCF-CAPM gap was at its narrowest (2 basis points) in 2015, when the risk-free rate was also at its lowest (2.55%). Post-2007 risk-free rates peaked in 2008 (4.36%), but the MSDCF-CAPM gap was 556 basis points, the second highest of the eight years. The facts do not support the Decision's attempt to link the gap to low risk-free rates.

model-work ("Although [the CAPM] has been employed in many utility rate-setting proceedings, it has yet to gain widespread use in corporate circles for estimating companies' costs of equity.").

⁸ *Tripoli Rocketry Ass'n, Inc. v. Bureau of Alcohol, Tobacco, Firearms, & Explosives*, 437 F.3d 75, 77 (D.C. Circ. 2006).

Conceptually, risk-free interests *should* be material to COE analysis since investors demand compensation for taking on risk, and equities necessarily compete with debt, including risk-free government debt. An MSDCF, or other COE model, that completely divorces the COE from interest rate and associated inflation rate realities would be of little value and highly likely to be inaccurate.

In fact, low interest rates do enter the MSDCF analysis through at least two of its inputs. First, low interest rates contribute, especially in the current environment, to higher prices for equities. Higher equity prices lower the COE discount rate as there is a higher net present value. Second, low interest rates typically link to low inflation, especially in recent years. Low inflation lowers the earnings per share (“EPS”) growth rates, which are expressed in nominal terms. Lower growth rates lower the COE.

The Board’s explanation of the causes for the MSDCF-CAPM gap rests on a faulty grasp of the facts, finance theory, and the operation of its own model and further indicates an unwillingness to consider or address the significance of the gap.

D. The Hybrid Methodology is Not More Robust, Stable, or Accurate, But is Less Accurate

WCTL showed that the MSDCF produces higher COE and COC values, that the CAPM did not produce values that were too low, and the Board’s CAPM values were overstated because of the choice of inputs, particularly the MRP.⁹

⁹ See, e.g., WCTL Opening Comments at 11-14; WCTL Reply Comments, EP 664 (Sub-No. 2) (Nov. 4, 2014) at 37-41 (“WCTL Reply Comments”).

The Decision claims to address COE issues raised by WCTL raised in the annual EP 558 decisions. Decision at 6 n.9. In the 2015 proceeding, WCTL presented Morgan

In response, the Board disclaims any interest in determining “whether one [model] is conceptually and pragmatically superior to the other.” Decision at 11, 12 (noting that the hybrid methodology “was not intended to be used as a benchmark against which to judge the results of the CAPM and MSDCF models individually”). Instead, the Decision invokes a principle of synergy (or alchemy) to the effect that the combined methodology is “more robust,” “stable,” and “accurate” than a single model. *Id.*

The Board’s analysis fails on several levels. First, it ignores the League’s point that because the MSDCF values have consistently exceeded the CAPM values, the MSDCF’s unavoidable impact is to raise the COE above the CAPM level that is already overstated because of the excessive MRP. “Unless the [agency] answers objections that on their face seem legitimate, its decision can hardly be classified as reasoned.”¹⁰

Second, the factors cited in the Decision involve trade-offs and are often mutually exclusive. Changing economic and financial conditions can, and should, cause

Stanley’s COC values for various railroads, which the Board dismissed because the report did not include all the carriers in the composite sample. *Railroad Cost of Capital—2015*, EP 558 (Sub-No. 19) (STB served Aug. 3, 2016), at 3. Attached as Exhibit B are excerpts from a later Morgan Stanley report, *Rails: Taking a Sip from a Glass Half-Empty* (Morgan Stanley June 3 2016), that specifies COC values for CSX (7.3%), KCS (7.2%), NS (7.4%), and UP (7.1%). Using the same market cap weights as for the 2015 determination, the weighted average is 7.2%. Adding 50 basis points to adjust for tax shield that might be present, the resulting COC is 7.7%, 191 basis points less than the Board’s 9.61% COC for 2015. In other words, the Board’s hybrid COC value for 2015 overstates the market value by 25% ($9.61\% \div 7.7\% = 1.248$).

The earlier decision also criticized the Morgan Stanley analysis because it did not specify how the COC was derived. EP 558 (Sub-No. 19) at 6. Yet, the Board uses EPS projections from analysts in the MSDCF with no guidance as to how they are derived. The Board is highly selective in how it applies its criticisms.

¹⁰ *PPL Wallingford Energy LLC v. FERC*, 419 F.3d 1194, 1198 (D.C. Cir. 2005).

the true COE to fluctuate, since investors are sensitive to changes in risk. Under such conditions, “stable” or “robust” values are inherently less “accurate.” Similarly, incorporating additional data or factors in a flawed or skewed way, as occurs in the MSDCF, can and will distort the otherwise accurate data and analysis in the CAPM. The Decision ignores those trade-offs as well as the opportunity to increase stability and accuracy in the CAPM by employing a lower MRP or a Blume beta adjustment.

The more fundamental problem is that Board’s focus on what is stable, robust, or accurate in terms of abstract theory comes at the expense of what should be central, that is, accurately capturing the opportunity cost of capital for the railroad industry as perceived by the financial and investment markets. Inclusion of the MSDCF increases the robustness of the Board’s error, not the accuracy of its COE estimates.

E. The Board’s Chosen MSDCF Model is Especially Flawed

Beyond showing that MSDCF models in general lack consensus support, WCTL also showed that the underlying assumptions and calculations of the Board’s particular MSDCF, especially its use of the simple average of the individual firm growth rates in the second stage and definitions of cashflows, were defective.

In particular, WCTL contrasted how the Board’s MSDCF treats such matters with the treatment in the Brattle Group’s regular MSDCF model. WCTL further noted that the Brattle model is very similar to what WCTL proposed in the EP 664 (Sub-No. 1) proceeding.¹¹ The Decision ignores WCTL’s showing altogether.

¹¹ WCTL Reply Comments at 23-28 and Exhibit 1.

The Board instead attempts to defend the second stage of its MSDCF on the grounds that “it is not realistic to predict individual companies’ growth rates beyond five years.” Decision at 13. The premise itself is reasonable.¹² The problem is that the Board’s premise does not support its conclusions.

The MSDCF’s second stage uses the exact same growth rates as the first stage, but just weights them differently by using a simple instead of a weighted average. The Board does not explain how giving equal weight to the five-year growth rates (which may contain three-year growth rates) yields a more plausible result. UP and KCS, for example, have different magnitudes of cash flows, yet the second stage growth rate treats them as equals. The Decision does not explain how that treatment of growth rates, for an additional five years, contributes to robustness or stability, facilitates a transition to the terminal growth rate, or otherwise promotes accuracy. At best, it adds random distortion and error, which is then perpetuated in the third stage cash flows and exacerbated by the cashflow redefinition for that third stage.

In contrast, the Brattle MSDCF mitigates these problems in substantial part. The Brattle’s first stage (years 1-5) is similar to the Board’s, but utilizes the cashflows

¹² WCTL showed that the even one-year EPS growth estimates are unlikely to be accurate in the first place, which is another reason to discard the MSDCF or give it less weight. WCTL Opening Comments at 17-19 and Exhibit 3. The Decision ignores this evidence, and instead seeks to address the circularity issue. Decision at 14. Here, the Board simply repeats its earlier claims and completely ignores WCTL’s additional evidence that: (a) traffic above the jurisdictional threshold supplies the bulk of railroad profits, and (b) volume and productivity, the other factors cited by the Board, do not begin to account for the projected EPS growth. WCTL Opening Comments at 27-30. Again, the Decision simply ignores evidence that detracts from its conclusions.

that firms actually distribute to shareholders, *i.e.*, dividends and buybacks.¹³ Brattle’s second stage, starting year six, begins the gradual phase-in to the terminal growth rate that fully applies starting in year 10.¹⁴ The Brattle approach is simpler, avoids the distortion inherent in using a simple average growth rate for a small number of entities, begins the transition at the point when the Board recognizes the five-year forecasts are inaccurate (as opposed to five years later), effects a smoother transition that should be part of a multi-stage analysis, avoids the complexity and inaccuracy in the Board’s redefinitions of growth rates and cashflows at later stages, and enjoys some demonstrable acceptance, as it is regularly used by Brattle and was recommended by WCTL’s expert back in 2008. Yet, the Decision ignores the Brattle alternative MSDCF entirely.

This “failure to respond meaningfully” to WCTL’s objections and lack of “rational connection between the facts found and the choice made” render the Decision arbitrary and capricious.¹⁵

F. The Decision Improperly Dismisses the Buyback Problem

The Decision’s response on the impact of buybacks EPS growth rates (Decision at 14) is even more facile and evasive. WCTL showed that even accurate EPS growth rates will overstate the firm-wide cashflows in the MSDCF model in the face of significant share buybacks, as have occurred with the railroads over the past decade.

¹³ This direct focus on distributions to shareholders eliminates any need to redefine cashflows in the third stage.

¹⁴ The Board uses a similar gradual phase-in for the transition between the RCAF-U and RCAF-A to adjust operating expenses in the stand-alone cost DCF model.

¹⁵ *PPL Wallingford, supra*, and *AEP Texas N. Co v. STB*, 609 F.3d at 438.

The Decision explains why a railroad might devote available cashflows to buybacks and not internal reinvestment in order to maximize shareholder market value based on expected returns. However, the same or very similar considerations that the Decision notes also apply, with no less force, to whether to use available cashflow to issue dividends or for reinvestment. The key difference is that buybacks, but not dividends, reduce the number of shares outstanding, even if they enhance shareholder value (or not). The math cannot be evaded: buybacks will cause even an accurate EPS growth rate projection to overstate the growth in firm-wide cashflows because the buybacks reduce the firm's number of shares. The overstatement in firm-wide cashflows translates into an overstated COE. The Decision simply ignores the fundamental problem rather than address it.

In short, the Decision does not respond meaningfully to any of WCTL's evidence regarding the deep flaws in the Board's MSDCF. The failure to respond meaningfully renders the Decision arbitrary and capricious. The MSDCF should not be used unless and until the flaws are resolved.¹⁶

¹⁶ To the extent the Board still insists on incorporating MSDCF values, it should use a less contrived model, such as that utilized by Brattle. In addition, the Board should adopt a trailing adjustment to correct for the excessive values of the MSDCF relative to the CAPM. The RCAF, for example, does so through both the forecast error correction and also the productivity adjustment, which passes through past productivity with a lag to allow changes in input prices to track changes in output costs. *Productivity Adjustment-Implementation*, 9 I.C.C.2d 1072 (1993). Such a mechanism would allow the MSDCF to contribute to a more stable or robust MSDCF, while mitigating the related distortion.

II. THE BOARD SHOULD DISCARD ITS 1926-BASED HISTORICAL MRP

WCTL demonstrated at length that the norm in the financial and investment community is to use MRPs that are significantly lower than the 1926-based Ibbotson (now Duff & Phelps) MRP the Board uses to calculate the COE for the railroad industry.¹⁷ As the Board notes, WCTL presented a range of survey and related supporting data. Decision at 17. WCTL also showed that the COE and COC values that result from using the CAPM with the recommended MRP conform to the values used and developed by the financial and investment community, thus serving an overriding objective when addressing the opportunity cost of capital.¹⁸

A. The Board's Error in Assuming and Insisting on an Historical Average

The Decision does not challenge the accuracy of WCTL's survey and other evidence *per se*. Instead, the claimed defect is that "the survey results do not address the methodology that the respondents used to arrive at their figures[; i]n other words, there is no indication of whether the respondents used a 50-year period, a period back to 1926, or some other period." *Id.* at 18.

This criticism is both makeweight and contrived. It in no way undermines the central fact that the Board's 1926-based MRP deviates from the values that the financial markets actually utilize. Insisting on the 1926-based MRP effectively guarantees that the CAPM value will be inaccurate relative to that of the market and

¹⁷ WCTL Opening Comments at 31-40 and referenced materials; WCTL Reply Comments at 41.

¹⁸ *See also* n.9, *supra*.

constitutes material error. The arbitrary and capricious standard requires a “rational connection between the facts found and the choice made,” *AEPCO Texas North*, 609 F.3d at 438, and the Board’s choice severs that connection.

Moreover, the Board errs in presupposing that investors necessarily utilize MRPs that are derived using a fixed historical period in the first place. The opportunity cost of capital is inherently a forward-looking concept that is applied to make forward-looking investment decisions. An investor that concludes that conditions have changed would be foolish to adhere to a historical figure, particularly the longest period available, which gives less weight to the more recent experience. History may help to identify a range of values that is reasonable or sustainable, but current values ultimately prevail. The AAR’s own expert has acknowledged this reality:

Moreover, the ERP estimate will only be *based* on the historical data. As we discuss above, economists have recognized that there are a number of events that have taken place in the past that may affect the historical ERP[,] that some of these events may not be repeated, and so the historical data should be revised to account for these events and make a better forward-looking ERP estimate.¹⁹

Other respected experts have specifically stated that “the abnormally high equity premium since 1926 is certainly not sustainable.”²⁰ Insisting on a rigid historical MRP in such circumstances ensures inaccuracy and falls short of reasoned decision-making.

¹⁹ Harris, Villadsen, & Lo Passo, *Calculating the Equity Risk Premium & the Risk-Free Rate* (Brattle Group Nov. 26, 2012) (Prepared for NMa, OPTA), at 29 (emphasis added).

²⁰ J. Siegel, *Stocks for the Long Run* (4th ed. 2007), *quoted in* WCTL Opening Comments, Triantis VS at 11.

WCTL's survey and other data show that the market has not been utilizing the Board's historical MRP in recent years, as lower MRPs manifestly constitute the norm within the financial and investment markets. The Board's insistence on using its 1926-based historical MRP ensures that the resulting COE and COC values will necessarily overstate the opportunity cost of capital. The Board has not justified such deliberate and systematic error. "An agency's use of a model is arbitrary if that model 'bears no rational relationship to the reality it purports to represent.'"²¹

B. The 1926-based Average is Less Precise and Accurate

The Board's claim that the 1926-based average is not less "precise" (Decision at 18) is perverse. A longer-term average is necessarily less reflective of and responsive to more recent experience, as any year's data is diluted over a larger base. The evidence shows that lower MRPs have been dominant for a number of years, and the use of a longer average thus ensures larger distortion and less precision.

In a related vein, stability is also suspect in the face of changing economic conditions. Stability ensures that the resulting COE will be too high in some years (forcing shippers to pay too much, and encouraging railroads to distribute their excess capital through buybacks and dividends) and too low in other years (when the railroads will lack access to capital needed for reinvestment). Even if one conveniently assumes that historical patterns repeat themselves without fundamental changes, the shorter and

²¹ *Columbia Falls Alum. Co. v. EPA*, 139 F.3d 914, 923 (D.C. Cir. 1998) (citations omitted).

longer historical MRPs will both still get to the same place, but the longer MRP will take longer to do so and, in doing so, will generate greater error in the interim by being less responsive to current conditions.

Even if one assumes continuing and relatively rapid reversions to the 1926-based mean, one must further consider whether the reversion will be to the nominal or real (inflation-adjusted) mean. The MRP logically encompasses an inflation component, but the Board's 1926-based MRP is stated in nominal terms. To the extent that the long-term MRP is constant, it seems more plausible that it will be constant in real terms, since a constant nominal mean implies that both real MRP and inflation will repeat over time, which is inherently problematic. The Board has not justified such a conclusion.

The Decision's concerns with negative MRPs resulting with the use of a shorter historical period and the subjectivity of normalized interest rates (*id.*) are contrived.²² WCTL showed that a confluence of different types of data and evidence supported the use of a significantly lower MRP and associated COE.

The Decision ignores the fact that the 50-year historical MRP was only part of WCTL's evidence supporting a lower MRP. WCTL's evidence also included several surveys, the implied MRP developed by Professor Damodaran (discussed *infra*), and independent recommendations of both Morningstar and Duff & Phelps, all of which

²² No negative MRP over fifty years has been identified, and the speculative issue can be addressed if it ever arises. Duff & Phelps's recommendation for a normalized interest rate departs from standard practice. It is also not needed where the COE/COC is recalculated annually. In addition, use of normalized values would require a commitment to make a downward adjustment in the market risk-free rates at other times.

showed the Board's chosen MRP was unrealistic and departed from the consensus. That the former and current custodians of the 1926-based MRP (and what is left of the MSDCF, for that matter) recommend a substantially lower MRP is particularly telling, yet given no weight in the Board's analysis.

C. The Decision Misperceives the Basis for the 50-year Historical MRP

The Decision's claim that WCTL presented no valid justification for a 50-year MRP as opposed to a 40-year or 60-year MRP (Decision at 18) is incorrect. As explained by Professor Triantis, the 50-year period is long enough to reduce statistical error and provide reasonable stability.²³

Moreover, the Decision again ignores the fact that WCTL's MRP recommendation rested on additional considerations, particularly the fact that the 50-year historical MRP, survey evidence, implied premium analysis, and independent recommendations, including Morningstar and Duff & Phelps, all converged to provide robust support for a MRP that did not exceed 5%.²⁴ In other words, WCTL did not claim that 50 years represented a magic figure, but showed that 50 years produced a stable and reasonable result that was corroborated with other probative and credible evidence.

In contrast, the Board's insistence on using a rigid historical MRP ensures that the resulting COE will rarely, if ever, reflect investor expectations because investors will prefer and utilize a figure that appears reasonable in light of contemporary conditions over a historical average. The Board's selection of the most dated MRP it can find only

²³ WCTL Opening Comments, Triantis VS at 10.

²⁴ *E.g.*, WCTL Opening Comments at 31-40 and materials referenced therein.

exacerbates the problem. It is irresponsible for the Board to choose a methodology that is certain to create ongoing bias and distortion and then claim it cannot do any better or correct for that error, when the available evidence demonstrates the availability and common utilization of multiple alternatives and other values that provide superior and converging results.

D. The 1926-based MRP is Statistically Less Accurate

The Board's claim that the historical average falls within the statistical range of the surveys and other MRPs (Decision at 18) is similarly misplaced.²⁵

The gap between a 7% and a 5% MRP is substantial and very consequential for sound discharge of the Board's regulatory duties.

Moreover, statistical analysis performed by Professor Damodaran shows that the Board's historical MRP provides an especially inaccurate estimation of the COE over the extended period from 1960 to 2015.²⁶ Table 24 at page 118 of his paper compares the predictive power of various MRP estimation methods and finds that the Board's historical MRP not only has the poorest correlation to actual returns, but that the correlation is actually negative:

²⁵ The Decision does not identify any statistical analysis that the Board actually performed. The Decision's reference to the positions taken by WCTL members in state regulatory proceedings (Decision at 18) ignores WCTL's explanations regarding how utilities differ from railroads and how methods that may not be appropriate for unregulated or lightly regulated firms may still be appropriate for firms subject to pervasive rate-of-return regulation. July 23, 2015 tr. at 18-21; WCTL Supplemental Comments, EP 664 (Sub-No. 2) (Aug. 6, 2015), at 2 n.2, 13-14, 15-16.

²⁶ Aswath Damodaran, *Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2016 Edition* (Updated: March 2016), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2742186.

Table 24: Predictive Power of different estimates- 1960 – 2015

<i>Predictor</i>	<i>Correlation with implied premium next year</i>	<i>Correlation with actual return- next 5 years</i>	<i>Correlation with actual return – next 10 years</i>
Current implied premium	0.750	0.475	0.541
Average implied premium: Last 5 years	0.703	0.541	0.747
Historical Premium	-0.475	-0.442	-0.469
Default Spread based premium	0.035	0.234	0.225

Further background on Professor Damodaran’s analysis may be useful.

The historical premium starts from 1928, not 1926, apparently in order to utilize publicly available data from the St. Louis Federal Reserve that is not subject to the restrictions on the Ibbotson data.²⁷ Survey data was not included in the comparison because it is not available for the full period. Damodaran at 118. The implied premium MRP is derived by performing a two-stage DCF analysis on dividend-paying stocks in the market, defining cashflow to include dividends and buybacks (as with the Brattle MSDCF), utilizing five-year growth forecasts, and then applying a terminal growth rate.²⁸

Professor Damodaran’s analysis demonstrates that the longest historical MRP preferred by the Board has been especially poor statistically for estimating the MRP over the last 55 years.

²⁷ Damodaran at 34 n.63 and 120. The 1928-based MRP is lower than the 1926-based MRP (Damodaran at 125), suggesting that the correlation would be more negative if the higher 1926-based MRP were utilized.

²⁸ *Id.* at 76-108; July 23, 2015 tr. at 14-15 (noting the implied MRP analysis presented by the AAR in its written evidence). Professor Damodaran regularly calculates and posts data and calculations for the implied MRP. Since he utilizes a 10-year risk-free rate, his MRPs would need to be reduced by the spread between the 20-year and 10-year Treasury bonds to make them compatible with the Board’s MRP.

In short, the Decision’s claim that there is no “evidence that the [MRP] methodology is either flawed or that the industry relies upon a different methodology” (Decision at 18) is entirely erroneous. WCTL showed the Board’s MRP approach is biased, not relied upon by the industry, contrary to the industry consensus, and substantially overstates the COE values that are utilized in the market.

The Decision states that the better approach to such issues is not to make modifications, but to use a second model as a check. *Id.* However, the Board’s MSDCF does not solve the problem, but only exacerbates it. The notion that a mediocre model is improved simply by combining it with a worse and skewed one is perverse.

CONCLUSION

The Board repeatedly stated that WCTL’s objections to the Board’s COE and COC methodology and calculations would not receive meaningful consideration unless WCTL filed a petition to institute a rulemaking. WCTL filed its petition, and the Board instituted the proceeding.

Despite taking over three years to render a decision, the Board still has not given meaningful consideration to WCTL’s concerns. In reaffirming its use of its existing methodology, the Decision ignores most of the detailed evidence that WCTL submitted, distorts and mischaracterizes what little of that evidence it does consider, and attempts to defend the existing methodology on grounds that lack support and coherence.

The Board has previously stated its ostensible commitment to utilizing the most accurate COE figure: “[w]e will not knowingly select an approach that would systematically overstate the cost of equity.” *Methodology to be Employed in*

Determining the Railroad Industry's Cost of Capital, EP 664 (STB served Jan. 17, 2008), at 11. The Decision shows the opposite.

While the Decision seeks to depict accurate COE estimation as a nearly impossible task fraught with uncertainty and error, the path for reasonably approximating the opportunity cost of railroad capital used by the market is not difficult or complicated. The Board simply needs to use the consensus method – CAPM – and the same or similar inputs, particularly the MRP as identified by a reasonable historical period, surveys, independent experts, and/or implied market valuation.

The Board should correct its methodology going forward, and correct for the erroneous values it calculated over past years.

Respectfully submitted,

WESTERN COAL TRAFFIC LEAGUE

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Dated: November 21, 2016

Its Attorneys

EXHIBIT A

**Estimated Variable Cost and Jurisdictional Threshold
of a Sample Unit Train Coal Movement via UP and BNSF -- 2015**

Items (1)	Based on 2015 Pre-Tax Cost of Capital (14.44%)		Based on 2015 Pre-Tax Cost of Capital Less 275 Equity Basis Points (10.97%)	
	UP (2)	BNSF (3)	UP (4)	BNSF (5)
A. Inputs				
1. Carrier	UP	BNSF	UP	BNSF
2. Miles 1/	1,000.0	1,000.0	1,000.0	1,000.0
3. Shipment Type	Originate & Terminate	Originate & Terminate	Originate & Terminate	Originate & Terminate
4. Cars per Train	135	135	135	135
5. Tons per Car	120	120	120	120
6. Commodity	Coal	Coal	Coal	Coal
7. Type of Movement	Unit Train	Unit Train	Unit Train	Unit Train
8. Car Ownership	Private	Private	Private	Private
9. Type of Car	Unequipped Gondola	Unequipped Gondola	Unequipped Gondola	Unequipped Gondola
B. Variable Cost Results				
10. Variable Cost per Ton - 2015 2/	\$11.07	\$11.47	\$10.41	\$10.82
11. Jurisdictional Threshold per Ton - 2015 3/	\$19.93	\$20.65	\$18.74	\$19.48
C. Difference				
12. Impact of 275 Equity Basis Points				
a. Variable Costs 4/	xxx	xxx	\$0.66	\$0.65
b. Jurisdictional Threshold 5/	xxx	xxx	\$1.19	\$1.17

1/ Estimated.

2/ L. E Peabody & Associates, Inc.'s estimated 2015 URCS formula.

3/ Line 10 x 1.8.

4/ Column (4): Line 10, Column (2) - Line 10, Column (4)

Column (5): Line 10, Column (3) - Line 10, Column (5)

5/ Column (4): Line 11, Column (2) - Line 11, Column (4)

Column (5): Line 11, Column (3) - Line 11, Column (5)

EXHIBIT B

June 3, 2016

Freight Transportation

Rails: Taking a Sip from a Glass Half-Empty

Even as Rail data deteriorates, investors are turning bullish on a 2017 rebound. With a range of potential outcomes on coal, poor macro visibility, and high valuations, we remain cautious on Rails but see potential for some opportunistic trades. Resume coverage on CP and NSC, and upgrade UNP.

We are resuming coverage of CP at OW, NSC at UW and upgrading UNP from EW to OW. We remain Overweight CN, Equal-weight KSU and GWR, and Underweight CSX. Our rating/ranking skew reflects our defensive positioning and preference for quality among Rails within our overall In-Line Freight Transportation view. We are also looking to hedge our position within Rails due to a wide range of potential coal market outcomes in 2017. Rail management teams continue to expect downside to coal in FY17, but our Utilities team sees as much as 25% upside. While some investors believe the Eastern rails are the natural winners in a coal upside scenario, we disagree and believe UNP is much better-positioned, leading us to recommend UNP over NSC/CSX.

Upgrading UNP to OW from EW (PT \$90 from \$78). We are turning more constructive on UNP as a nice potential coal hedge against the Eastern rails over the next 12 months. In the event that coal does rebound into 2017, we think UNP would likely be the earliest and biggest beneficiary, being exposed to PRB coal. On the other hand, if the coal rebound disappoints, investor sentiment appears much more bullish at the Eastern rails. Together with high-quality operating metrics, a strong balance sheet, and mid-pack valuation, we see UNP as a relative OW within the group. We are now modeling in something close to the mid-point of the range of coal outcomes for next year (+10%), which takes our PT to \$90 (about 8% upside). **However, at the high-end of coal rebound estimates, UNP could be one of the best stocks in all of Freight Transportation in 2017.**

Resuming coverage of CP at OW (PT C\$200). With CEO Hunter Harrison at the helm, CP has been the best-performing Rail in the past 5 years both in terms of operating metrics and stock price. As he transitions out of that role, CP now appears to be less in favor with investors, trading at the biggest discount to historical multiple of any Rail ex-KSU. **However, to the extent that past is prologue, we believe CP's operating excellence can continue after Mr. Harrison and see CP as one of the high-quality, defensive Rails to own entering a tough secular growth environment.**

Resuming coverage of NSC at UW (PT \$71). NSC lags the Class I Rails on most operating metrics. **While the consensus view is that NSC has a cost issue and thus a big opportunity, we note that, on some metrics, NSC has actually been amongst the operating cost leaders in the past 5 years.** The real issue is the top line, which has been significantly eroded by the decline of coal. We see revenue

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Freight Transportation

North America
IndustryView

In-Line

Ticker	2016FY				2017FY			
	Prev MS Est.	Cur MS Est.	Cons. Est.	MS vs. Cons.	Prev MS Est.	Cur MS Est.	Cons. Est.	MS vs. Cons.
Rails								
CNR	\$4.48	\$4.44	\$4.51	▼	\$5.02	\$4.97	\$4.91	▲
CP	NA	\$10.93	\$10.93	-	NA	\$12.47	\$12.32	▲
CSX	\$1.73	\$1.74	\$1.76	▼	\$1.79	\$1.92	\$1.94	▼
GWR	\$3.60	\$3.60	\$3.56	▲	\$3.87	\$3.87	\$3.83	▲
KSU	\$4.68	\$4.66	\$4.65	▲	\$5.25	\$5.24	\$5.23	-
NSC	NA	\$5.53	\$5.62	▼	NA	\$6.03	\$6.21	▼
UNP	\$5.27	\$5.18	\$5.16	-	\$5.79	\$6.04	\$5.75	▲

Ticker	TMF				Rating		Analyst
	Old PT	New PT	Stock Price	New % Upside	Old	New	
Rails							
CNR	\$83.0	\$86.0	\$78	10.3%	OW	OW	Ravi Shanker
CP	NA	\$200	\$170	17.6%	NR	OW	Ravi Shanker
CSX	\$22	\$23	\$26	(11.5%)	UW	UW	Ravi Shanker
GWR	\$62	\$62	\$60	3.3%	EW	EW	Alex Vecchio
KSU	\$83	\$84	\$93	(9.7%)	EW	EW	Ravi Shanker
NSC	NA	\$71	\$84	(15.5%)	NR	UW	Ravi Shanker
UNP	\$78	\$90	\$84	7.1%	EW	OW	Ravi Shanker

Resumption Reports:

[Rails: End of the Pricing Renaissance? Time for Quality and Defense](#)

[Parcel: At a Fork in the Delivery Route](#)

[Trucking & Logistics: An Intelligent Revolution is Coming](#)

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Risk Reward

Union Pacific Corp. (UNP, Overweight, PT \$90)



Source: Thomson Reuters, Morgan Stanley Research Estimates

Exhibit 32: Bull, Base, and Bear Case

	YE2017	YE2018	Bull Case		
Carload Growth	4.5%	3.2%	Underlying fundamentals at the four most challenged end markets improve and overall industry volume growth accelerate as the economy picks up momentum. Pricing exceeds expectations. Given volume and pricing growth, UNP is able to generate operating leverage beyond expectations.		
Yield Growth	6.1%	4.7%			
Freight Revenue Growth	10.8%	8.0%			
Non-Freight Revenue Growth	2.0%	2.0%			
Operating Ratio	58.9%	56.8%			
Sharecount	804	771			
EPS Estimate	\$6.61	\$7.83	Fwd P / E Multiple	17.0	Valuation Level \$118
	YE2017	YE2018	Base Case		
Carload Growth	3.0%	1.7%	Structural headwinds at the four most challenged end markets will not only pressure industry volumes (we expect LSD vol growth in 2017/18), but will also challenge inflation plus pricing. We believe the rails with the best op. metrics and least exposure to at-risk markets will have the most potential to expand margins.		
Yield Growth	4.6%	3.2%			
Freight Revenue Growth	7.7%	4.9%			
Non-Freight Revenue Growth	2.0%	2.0%			
Operating Ratio	61.1%	60.1%			
Sharecount	806	778			
EPS Estimate	\$6.04	\$6.72	Fwd P / E Multiple	14.5	Valuation Level 90.00
	YE2017	YE2018	Bear Case		
Carload Growth	1.8%	(0.1%)	In addition to the four most challenged end markets, other end markets face structural pressures and economic growth decelerates, driving volume declines and core pricing below inflation. Rails see significant deceleration in productivity as cost control slips in the face of lackluster volumes. Investor concerns drive multiples lower.		
Yield Growth	3.0%	1.6%			
Freight Revenue Growth	4.8%	1.5%			
Non-Freight Revenue Growth	2.0%	2.0%			
Operating Ratio	63.0%	62.6%			
Sharecount	809	784			
EPS Estimate	\$5.55	\$5.83	Fwd P / E Multiple	12.0	Valuation Level \$67
Valuation Discussion					
We use a 10-year DCF assuming 7.1% WACC and terminal cash flow perpetual growth rate of 1.5% (implying an exit EBITDA multiple of 8.0x). Our DCF valuation implies a fwd P/E of 14.5x, which is below UNP's historical 5-year avg. reflecting secular growth headwinds.					

Source: Morgan Stanley Research

Investment Thesis

■ We are Overweight UNP. We see UNP as a high-quality, defensive Rail which has room to improve its already strong operating metrics. We argue that UNP is the best coal hedge against an UW position in an Eastern rail. If we see a bump in coal volumes in 2017, UNP should be the earliest and biggest beneficiary given its PRB exposure. If coal disappoints, UNP should hold up relatively better than the Eastern rails given lower investor expectations at UNP.

Investment Positives

- Despite high exposure to most challenging end markets we see some defensive traits (PRB and MX exposure)
- Very strong operator behind Canadian rails
- Valuation is relatively attractive vs. peers based on MSe

Risks to our Price Target

- If coal gets worse into 2017 due to cool weather or continued natural gas supply, UNP could be hit worse than Eastern Rails
- Panama Canal expansion could hurt UNP more than other Rails
- If industry gets more competitive, the "disciplined" UNP management team could be slower to react

Risk Reward

Norfolk Southern Corp (NSC, Underweight, PT \$71)



Source: Thomson Reuters, Morgan Stanley Research Estimates

Exhibit 55: Bull, Base, and Bear Case

	YE2017	YE2018	Bull Case			
Carload Growth	3.7%	3.5%	Underlying fundamentals at the four most challenged end markets improve and overall industry volume growth accelerate as the economy picks up momentum. Pricing exceeds expectations. Given volume and pricing growth, NSC is able to generate operating leverage beyond expectations.			
Yield Growth	3.3%	2.8%				
Freight Revenue Growth	7.1%	6.3%				
Non-Freight Revenue Growth	NA	NA				
Operating Ratio	67.7%	66.7%				
Sharecount	289	280				
EPS Estimate	\$6.47	\$7.38	Fwd P / E Multiple	15.0	Valuation Level	\$100
	YE2017	YE2018	Base Case			
Carload Growth	2.7%	2.9%	Structural headwinds at the four most challenged end markets will not only pressure industry volumes (we expect LSD vol growth in 2017/18), but will also challenge inflation plus pricing. We believe the rails with the best op. metrics and least exposure to at-risk markets will have the most potential to expand margins.			
Yield Growth	2.6%	2.1%				
Freight Revenue Growth	5.4%	5.0%				
Non-Freight Revenue Growth	NA	NA				
Operating Ratio	68.9%	68.3%				
Sharecount	290	282				
EPS Estimate	\$6.03	\$6.68	Fwd P / E Multiple	11.5	Valuation Level	71.00
	YE2017	YE2018	Bear Case			
Carload Growth	1.7%	1.7%	In addition to the four most challenged end markets, other end markets face structural pressures and economic growth decelerates, driving volume declines and core pricing below inflation. Rails see significant deceleration in productivity as cost control slips in the face of lackluster volumes. Investor concerns drive multiples lower.			
Yield Growth	2.6%	1.1%				
Freight Revenue Growth	4.3%	2.8%				
Non-Freight Revenue Growth	NA	NA				
Operating Ratio	68.7%	68.8%				
Sharecount	290	283				
EPS Estimate	\$6.00	\$6.29	Fwd P / E Multiple	9.0	Valuation Level	\$55
Valuation Discussion						
We use a 10-year DCF assuming 7.4% WACC and terminal cash flow perpetual growth rate of 1.5% (implying an exit EBITDA multiple of 6.0x). Our DCF valuation implies a fwd P/E of 11.5x, which is below NSC's historical avg. given our cautious outlook on rails.						

Source: Morgan Stanley Research

Investment Thesis

■ We are Underweight NSC. We believe NSC has a topline issue instead of a cost issue, with revenues significantly eroded by the decline of coal. We expect the revenue headwinds to continue and while there will be some cost improvement potential, the consensus expectations may be too high for NSC.

Why Underweight?

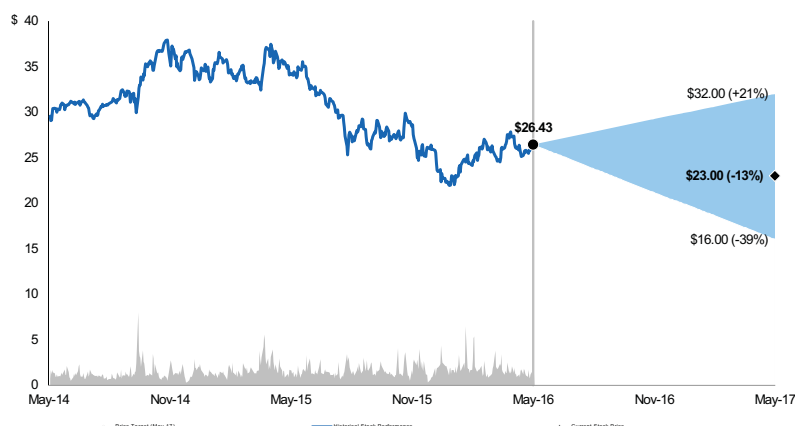
- Cost cutting potential exists but may not be as large as some believe
- NSC will continue to experience topline headwinds given coal exposure
- Valuation is unattractive

Risks to our Price Target

- NSC can achieve operating leverage when volumes rebound
- Efficiency savings could exceed consensus and our expectations
- NSC's cash return is relatively strong with the highest dividend yield and above average stock buyback
- Strategic optionality

Risk Reward

CSX Corporation (CSX, UW, PT \$23)



Source: Thomson Reuters, Morgan Stanley Research

Exhibit 59: Bull, Base, and Bear Case

	YE2017	YE2018	Bull Case			
Carload Growth	4.2%	4.6%	Underlying fundamentals at the four most challenged end markets improve and overall industry volume growth accelerate as the economy picks up momentum. Pricing exceeds expectations. Given volume and pricing growth, CSX is able to generate operating leverage beyond expectations.			
Yield Growth	3.1%	2.5%				
Freight Revenue Growth	7.5%	7.3%				
Non-Freight Revenue Growth	2.5%	2.5%				
Operating Ratio	69.3%	68.2%				
Sharecount	924	897				
EPS Estimate	\$2.02	\$2.35	Fwd P / E Multiple	15.0	Valuation Level	\$32
	YE2017	YE2018	Base Case			
Carload Growth	2.2%	2.6%	Structural headwinds at the four most challenged end markets will not only pressure industry volumes (we expect LSD vol growth in 2017/18), but will also challenge inflation plus pricing. We believe the rails with the best op. metrics and least exposure to at-risk markets will have the most potential to expand margins.			
Yield Growth	2.9%	2.3%				
Freight Revenue Growth	5.2%	5.0%				
Non-Freight Revenue Growth	2.5%	2.5%				
Operating Ratio	69.9%	69.4%				
Sharecount	926	903				
EPS Estimate	\$1.92	\$2.12	Fwd P / E Multiple	11.7	Valuation Level	23.00
	YE2017	YE2018	Bear Case			
Carload Growth	0.2%	0.6%	In addition to the four most challenged end markets, other end markets face structural pressures and economic growth decelerates, driving volume declines and core pricing below inflation. Rails see significant deceleration in productivity as cost control slips in the face of lackluster volumes. Investor concerns drive multiples lower.			
Yield Growth	1.9%	1.3%				
Freight Revenue Growth	2.1%	2.0%				
Non-Freight Revenue Growth	2.5%	1.5%				
Operating Ratio	71.2%	70.3%				
Sharecount	934	924				
EPS Estimate	\$1.74	\$1.87	Fwd P / E Multiple	9.0	Valuation Level	\$16
Valuation Discussion						
We use a 10-year DCF assuming 7.3% WACC and terminal cash flow perpetual growth rate of 1.5% (implying an exit EBITDA multiple of 6.0x). Our DCF valuation implies a fwd P/E of 11.7x, which is below CSX's historical 5-yr. average reflecting secular pressures.						

Source: Morgan Stanley Research

Investment Thesis

■ We are Underweight CSX. CSX has high exposure to the most challenged Rail end markets, below-average operating metrics and while cheaper than some peers, we do not see enough value to get constructive at this time.

Investment Positives

- Management team attempting to work around secular and cyclical challenges
- Amongst the cheapest stocks in the group

Risks to our Price Target

- Operating metrics bring up the rear of the group
- Higher than average exposure to challenged end markets. Coal has already been a big headwind
- Sentiment/valuation may not have bottomed

Risk Reward

Kansas City Southern (KSU, Equal-weight, PT \$84)



Source: Thomson Reuters, Morgan Stanley Research Estimates

Exhibit 61: Bull, Base and Bear Case

	YE2017	YE2018	Bull Case			
Carload Growth	6.7%	6.8%	Underlying fundamentals at the four most challenged end markets improve and overall industry volume growth accelerate as the economy picks up momentum. Pricing exceeds expectations. Given volume and pricing growth, KSU is able to generate operating leverage beyond expectations.			
Yield Growth	4.6%	4.4%				
Freight Revenue Growth	11.6%	11.5%				
Non-Freight Revenue Growth	2.0%	2.0%				
Operating Ratio	62.1%	59.8%				
Sharecount	106	104				
EPS Estimate	\$5.68	\$6.95	Fwd P / E Multiple	19.5	Valuation Level	\$117
	YE2017	YE2018	Base Case			
Carload Growth	3.7%	3.8%	Structural headwinds at the four most challenged end markets will not only pressure industry volumes (we expect LSD vol growth in 2017/18), but will also challenge inflation plus pricing. We believe the rails with the best op. metrics and least exposure to at-risk markets will have the most potential to expand margins.			
Yield Growth	3.6%	3.4%				
Freight Revenue Growth	7.4%	7.3%				
Non-Freight Revenue Growth	2.0%	2.0%				
Operating Ratio	63.4%	62.3%				
Sharecount	106	104				
EPS Estimate	\$5.24	\$5.93	Fwd P / E Multiple	15.5	Valuation Level	\$84.00
	YE2017	YE2018	Bear Case			
Carload Growth	0.7%	0.8%	In addition to the four most challenged end markets, other end markets face structural pressures and economic growth decelerates, driving volume declines and core pricing below inflation. Rails see significant deceleration in productivity as cost control slips in the face of lackluster volumes. Investor concerns drive multiples lower.			
Yield Growth	2.6%	2.4%				
Freight Revenue Growth	3.3%	3.2%				
Non-Freight Revenue Growth	2.0%	2.0%				
Operating Ratio	61.8%	62.0%				
Sharecount	106	105				
EPS Estimate	\$5.28	\$5.50	Fwd P / E Multiple	13.0	Valuation Level	\$69
Valuation Discussion						
We use a 10-year DCF assuming 7.2% WACC and terminal cash flow perpetual growth rate of 3.0% (implying an exit EBITDA multiple of 8.0x). Our DCF valuation implies a fwd P/E of 15.5x, which is below KSU's historical avg. given our cautious outlook on rails.						

Source: Morgan Stanley Research

Investment Thesis

■ We are Equal-weight KSU. KSU's growth opportunity in Mexico is one of the best secular themes in Rails though we are somewhat concerned about high Auto exposure when the cycle might be peaking and the industry faces secular threats. Operating quality has been somewhat of a mixed bag in the past year and while KSU is still one of the most expensive Rails, it has de-rated significantly from its historical valuation level.

Investment Positives

- Lowest exposure to the most challenged end markets and exposure to Mexican industrialization a secular positive for volume growth
- Operating metrics have room to improve
- Multiple has de-rated from historical levels
- Reduced regulatory hurdles for M&A vis-à-vis Class I's provide strategic optionality

Risks to our Price Target

- Mexico exposure is not without risk
- Still one of the most expensive Class I Rails
- Execution has been spotty
- High capex requirements